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PART I.  
ORIGINAL COMMUNICATIONS.

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ART. I.—*A Sketch of the History of Anatomy in Ireland.*\* By  
A. MACALISTER, M.D., F.R.S.; Fellow of St. John's College,  
and Professor of Anatomy, Cambridge.

THE widening range of our knowledge in all that pertains to  
Physic has, in process of time, produced a twofold effect. It has  
led, in the first place, to a specialisation nearly as thorough as  
that which Herodotus<sup>b</sup> (incorrectly) attributes to the Egyptian  
physicians of old; and, in the second place, it has conduced to the  
appreciation of the importance of those sciences which are acces-  
sory to practical medicine.

The formation of a separate section of the Irish Academy of  
Medicine for Anatomy and Physiology, is a natural outcome both  
of that specialisation and of this appreciation, and we hail it as mark-  
ing a new era in the history of medical science in Dublin. Not  
that we have been hitherto unmindful of the importance of these  
sciences, or have cultivated them less sedulously than our neigh-  
bours in other centres of thought and education, but the environing  
forces which have moulded the Dublin School in its growth  
have not been altogether favourable to development in the direc-  
tion of the more purely scientific branches; and hence, while  
the Dublin School has been second to none in some of the more

\* The basis of this sketch was prepared as a Presidential Address for the Section of  
Anatomy and Physiology of the Academy of Medicine in Ireland. I had not time to  
expand its details, but hope that some Irish anatomist may do so in the future.

<sup>b</sup> *Euterpe* II., 84.



practical departments of medicine and surgery, its position in science has not been commensurately prominent.

It is wise for us to know the causes of these past conditions, to learn our own weaknesses; and to contribute to that end we shall now briefly review the history of Dublin as a medical school from this standpoint, ascertaining how far these sciences have hitherto been studied in bygone days—what influences, if any, our Dublin men of science have exercised on scientific progress, and what have been the forces prejudicial to free growth along these lines.

Whether there be psychical characteristics of race, as there are physical, I shall not undertake to say; but this much is reasonable if not capable of proof—that in outlying countries, like Ireland, the peculiarities of circumstance, of climate, habit, and neighbourhood, so affect the mental disposition of the people as to give a recognisable local colour to all their pursuits; and this is as true in Irish medicine as it has been in Irish politics.

The heterogeneous nature of the Irish population in earliest historic times, made up as it was by successive waves of immigration from the east—of Fomorian, Nemedian, Tuatha de Danaan, Firbolg, and Milesian—was naturally productive of constant internecine warfare. Each component race, retaining much of its individuality, was ever at war with its neighbours; so that a bellicose spirit appears to have been early developed as a characteristic common to all the component elements of the population.

In such a state a rude military surgery was sure to develop; and we gather from the coherent tradition of these peoples, preserved by our annalists, that there existed a certain amount of medical and surgical knowledge among them. Thus in the story of the Battle of Magh-tuireadh, as preserved for us by O'Clery, we read of the Physician Diancecht, who succoured the wounded in that conflict in the year of the world, 3,330, that is, 674 years before the Christian era, and who dressed the stump of the king of the Tuatha de Danaan, Nial, who lost his hand in the engagement. The account merges on the marvellous; for the historian proceeds to narrate that after Credne, the smith, had fashioned a silver hand for the crippled limb, Miach, the son of Diancecht, so improved on it as to infuse feeling and motion into its joints and veins—the earliest record of the well-known phenomenon of referred sensation attributed to lost parts after amputation. Diancecht was apparently the Irish form of *Æsculapius*; as in

Cormac's Glossary the etymology of the word is given as *Dia nah'ice*—God of Healing. The few other references among these earliest annalists to medicine and surgery are either mythic or refer to such empiricism as we find among primitive races.

The primitive Irish did not, apparently, consider medical science as a branch of general culture; and from O'Flaherty\* we learn that in the University founded at Tara in the third century by Cormac MacArt, the schools were of military science, of history, and of law—none of medicine. In these, and even later in early Christian times, the physicians were a set of hereditary dependents attached to the leading septs or families. Thus the O'Hickeys were the physicians to the O'Briens of Thomond; the O'Lees to the O'Flahertys; the O'Sheils to the MacCoghlan and to the MacMahons of Oriel.

Among these the traditional knowledge derived from the experience of a line of medical ancestry was supplemented by the instruction received from a very wide acquaintance with the writings of the Greek and Arabian medical authors of the day, obtained, however, solely through the medium of Latin translations. It is much to be regretted that the numerous medical manuscripts which have come down to us have not yet been edited or translated, for they abound in curious and original remarks; and now that the Irish medical manuscripts are nearly all in the custody of the Royal Irish Academy, I would suggest that no more interesting series could be published by that body. For the most part they are compilations from the Latin translations of the works of Hippocrates, Galen, and Avicenna, with numerous quotations from other authors—Aretæus, Haly-Abbas, Rhazes, Isidorus, &c.; but mixed with these are original remarks embodying the personal experience of the authors. Those extant mostly belong to the 14th, 15th, and 16th centuries. These physicians seem to have been peripatetic exercisers of their art; for in the margin of the MS. of one of the O'Sheils, now in the library of the Royal Irish Academy, is written in Irish—"May the Great God bring us both out of this strange country in which we are in the land of Connaught—in Coillaghy I am this night, *Laus Deo*."

Looking through these writings I find that although they show an extensive acquaintance with the then existing literature of medicine, such as it was, there is no trace whatever of an independent study of anatomy, and in a people in whom religiosity and

\* *Ogygia* II., p. 239.

respect for the dead were so deeply engrained, it is exceedingly improbable that any attempts were thus early made to study practically the organisation of the body. Thus, in the section of the book of the O'Lees (1443), on *Hernia*, there is no anatomy of importance given, although in the portion on the eye there are separate chapters on diseases of the cornea, conjunctiva, iris, and crystalline lens. The want of anatomy is not to be wondered at, as in Italy the revival of anatomy, under Mundinus of Bologna, was then not more than sixty years old.

In the earliest days of English rule in Ireland the health of the citizens of Dublin was cared for by a few imported physicians, by the brethren of the various religious orders, and by the members of the guild of St. Mary Magdalene, to whom, as barber-surgeons, Henry VI. had given a charter in 1446, a year before the outbreak of an epidemic of typhus fever which decimated the city. The Hospital of St. Stephen, nearly where Mercer's Hospital now stands, the Hospital in Francis-street, and the Lazaretto at the Steyne on Lazar's-hill, near where now Westland-row joins Brunswick-street, and which was founded by Archbishop Henry de Loundres,\* together with the Hospice of the Knights Templars at Kilmainham, were under the care of different orders of monks, who therein provided medical aid to the suffering poor, and for whom there was abundant employment in the numerous plagues which at short intervals visited the closely-built and ill-drained city on the hazelbank-hill.

The want of any provision for intellectual culture or professional education in any branch was early felt in Ireland, and by the influence of Archbishop John Lech a bull was obtained from Pope Clement V., 13th July, 1311, to found a University in Dublin. This bull was burned in a subsequent fire at Christ Church, but from the abstract in Archbishop Alan's Register it appears to have begun by a preamble stating that no general University existed in Ireland, Scotland, Man, or Norway; and as these lands were surrounded by the sea, so that no access or passage is to be had to any University but through great dangers, therefore the Pope ordains that a general University be founded in Dublin, a place fit for such a purpose on account of the advantages and commodious state thereof, which was to be a general school for every science and every lawful faculty. Lech died

\* I examined the skull of this able and distinguished prelate some years ago; it was small, lofty, with very small facial bones and prematurely ossified sutures.

before this project was realised, but his successor in the See of Dublin, Archbishop de Bicknor, obtained a renewed bull from John XXII., whose provisions, however, were only partially carried into operation, and the only lectureships recorded are those in canon law and in divinity, the latter founded by Edward III. This shadow of a University dragged out a miserable existence in St. Patrick's Cathedral until about 1495, when, about the time of the passing of the famous Poynings's Act, it expired of starvation.

That it did not fulfil its functions is shown by the fact that in 1465 Edward the Fourth granted a charter for the foundation of a University at Drogheda, for education and granting degrees in all the sciences and faculties "as they are in the University of Oxenford," and the preamble to the charter sets forth that it is issued because Ireland has no University nor general place of study. This proposed University seems, however, never to have developed.

The barber-surgeons of Dublin had their liberties confirmed and their privileges extended by a new charter from Elizabeth in 1576, and fifteen years later the University of Dublin was founded by the same Queen.

Six years after the foundation, we find it recorded in the books of the University that a grant of £40 was annually made, to be given thereto by Government as "physician's pay." Some kind of instruction in medicine must then have been given in Dublin, for in 1619 Dermod O'Meara published a work on "The Pathology of Hereditary Diseases," and although this enlightened inquirer had been educated in Oxford, yet he practised in Dublin, and probably taught there too.

The need of systematising such instruction led, in 1628, to the passing, by the governing body of the University, of a decree that one of the Fellows should become Professor of Medicine, and should deliver lectures in the several terms in that science. No mention is made of instruction in anatomy, but it was ordained in the University Statutes of Sir William Temple that each candidate for a medical degree must have been present at three "anatomies"—that is, at the dissection of three bodies. Such dissections must have been carried on in private houses, as there was, in the first half of the 17th century, no recognised place in the University for anatomical work.

The system of Fellowship teaching lasted only thirty-four years, John Temple, Andrew Beere, and John Stearne having

been the successive Medical Fellows, but even at that early date it was discovered that Trinity College Fellows, being jacks of all trades, fulfilled for the most part the latter clause of the adage as well, and, except in three instances since, none of the Fellows of College have ever taken part in medical teaching.

Even at this date Irish physicians in foreign countries have made their mark in the history of the profession, and in the medical writings of Neil O'Glacan, who was successively Professor of Physic in Toulouse and Bologna, and who, in 1629, was Privy Councillor to the King of France, there is shown a wide knowledge of the anatomy then so ably taught in Italy.

A circle of inquiring men, who were for the most part connected with the University, founded, in 1683, the Dublin Philosophical Society. Sir Thomas Molyneux, our first Irish Medical Baronet, and Professor of Practice of Medicine in the University of Dublin, in his letter to his equally distinguished brother William, gives many particulars of this Association, which founded a Botanic Gardens at the Crow's Nest, off Dame-street, near where Cecilia-street School now stands, and which built a laboratory there for scientific work. In one of his letters published in the biographical sketch of Molyneux (*Dublin Univ. Magazine*, Vol. XVIII., p. 479), we read a notice of one of the first recorded human dissections. He says (1684):—"About a fortnight ago Dr. Dunn procured the body of a malefactor to dissect and make a skeleton. I was constant at the dissection, but nothing curious was done, but only the surgeons and physicians that were present spoke at random as the parts presented themselves. It lasted for a week. The remarkables in the body were a firm cohesion between all the upper convex surface of the liver and diaphragm; the right spermatick vein arising out of the emulgent vein, and so likewise the left from the left emulgent vein; an unusual depressure on the inside of the skull. Pierus' glands in the gutts were not discovered."

That this was not the only dissection made by Molyneux we gather from another of his letters, wherein he says:—"You may remember I bought the 'Anatomy Epitomised' to read over the bodys we dissected in our course." The book referred to and eulogised by him is "The Anatomy of Humane Bodies Epitomised, wherein all the parts of man's body, with their actions and uses, are succinctly described, according to the newest doctrine of the most accurate and learned modern anatomists, with plates: London,

1682" (four editions of this work were published). It is a really admirable work for its period, and the author, Thomas Gibson, justifies its title. Molyneux was the author of a paper on Giants, and one on the Vesiculæ Seminales, as well as one on the Anatomy of Bats.

We have the record of a dissection twelve years earlier in Trinity Hall, St. Andrew's-street, and the bill containing interesting items in reference to it is published by Belcher in his Memoir of Sir P. Dun,<sup>a</sup> but these dissections in this place must have been sporadic, for the very table had to be bought for this dissection, and cost 6s.

A really able anatomist was associated with Molyneux in the Philosophical Society—Allen Mullen, a native of Londonderry, who practised as a physician in Dublin in 1684. By his direction the laboratory at the Crow's Nest was built, and there he pursued his minute dissection of the human eye, wherein he discovered the long ciliary vessels. His account of the anatomy of the elephant (which was burned to death in Essex-street), as well as his dissections of the heads of fowls, and of a double cat, published in the "Philosophical Transactions," show him to have been an able anatomist, with much aptitude for research, while his paper on the Estimation of the Amount of Blood in the Body is a singular production for its date. Mullen's career was unfortunate; he had to leave Dublin on account of a scandalous intrigue, and he settled for a short time in London, from whence he sailed with Lord Inchiquin for Jamaica, but, landing at Barbadoes, he got drunk, took fever, and died, 1687.

Patterson, the recorder of the dissection of the malefactor above referred to, was also a member of the society, as also St. George Ashe, the author of the record of a case of gynæcomasty; Sir P. Dun, Sir W. Petty, and Archbishop Marsh, were also prominent members.

That even then in Ireland anatomy was regarded as the basis of physic is testified to by the sarcastic preface by Sir W. Petty to his "Political Anatomy of Ireland," which says:—"It is as reasonable that as anatomy is the best foundation of the one (medicine), so also of the other (politics), and that to practice upon the (body) politick without knowing the symmetry, fabrick,

<sup>a</sup> For the soldiers who guarded the body, 4s. 6d.; coffin, 4s. 6d. For the soldiers who watched, 9s.; drink for the same, 3s. 10d. The whole expense of the dissection was £2 4s. 10d.

and proportion of it is as casual as the practice of old women and empirics."

"Furthermore, as students in medicine practice their inquiries upon cheap and common animals, and such whose actions they are best acquainted with, and where there is the least confusion and perplexure of parts, I have chosen Ireland as such a political animal, who is scarce 20 years old, where the intrigue of state is not very complicate, and with which I have been conversant from an embrion.

"'Tis true that curious dissections cannot be made without a variety of proper instruments, whereas I have had only a common knife and a clout; however, my rude apparatus being enough to find whereabouts the liver and spleen and lungs lye, though not to discern the lymphatic vessels, plexus choroides, the volvuli of vessels within the testicles, &c."\*

Subjects cannot have been very hard to be got, as even then the city had an unhealthy reputation. Diarrhoea, called then "the country disease," and fever, seemed endemic. In Major Graunt's appendix to his fifth edition of "Observations on the London Bills of Mortality," a Dublin register is quoted, wherein it appears that between July 7th and the end of August, 1662, the baptised in Dublin were 14, the deaths 20; and Sir William Petty, in his "Observations on the Dublin Bills of Mortality, and the State of that City," gives the baptisms in Dublin for 1686 as 912, and the deaths as 2,259.

The stirring events in Irish history at the close of the 17th century were fraught with important consequences to the Dublin Medical School. A cadet of an old Forfarshire family, Sir Patrick Dun—born in Aberdeen in 1642, knighted by the Lords Justices, the Earls of Mountrath and Drogheda, in 1696—had settled in Dublin, and occupied the positions of Physician to the State and to the Lord Lieutenant, 1676, and in 1681 President of the College of Physicians, which had been founded by Charles I. in 1626. The miserable provision for medical teaching in Dublin seems to have attracted his attention, and in 1704 he executed a deed whereby he declared it to be his desire and intention to make provision for one or two professors of physic to read public lectures and to make public anatomical dissections of the several parts of human bodies, or bodies of other animals, &c., for the instruction

\* Political Anatomy of Ireland. By Sir W. Petty, late F.R.S. London: Printed at the Bible without Temple-bar, &c. 1691.

of students in physic, surgery, and pharmacy, &c. This provision was carried out by his will, executed in 1713, and proved in 1714.

It was probably under the influence of Dun that in 1711 (Feb. 15) the Board of Trinity College passed a resolution stating that, in accordance with the request of the College of Physicians, every candidate Bachelor of Physic should be examined in all parts of anatomy relating to the *œconomia animalis*.

A year earlier than this we for the first time read of systematic lectures in anatomy being delivered in Trinity College by Dr. Richard Hoyle.\* These were delivered in private rooms in college, but in August, 1711, the first anatomical theatre was opened. This was the plain, ugly red-brick building, still remembered by many old men, which adjoined the west end of the library, and stretched from thence to touch the old curtain wall, still standing, which separates the College Park from the Fellows' Garden. In this building, for a hundred and fourteen years, the anatomical teaching of the University was carried on. The first four courses were given here by Hoyle, but in 1716 the Board appointed Bryan Robinson to succeed him, and also appointed a Demonstrator, under the title of University Anatomist. This assistant, Surgeon Green, held office for eighteen years, but his senior was not so fortunate. Robinson was dismissed from his office for some unknown cause in 1717, and Hoyle reinstated. Robinson practised as a physician, was President of the College of Physicians in 1718, 1727, and again in 1739, and was the author of "Observations on the Virtues and Operations of Medicine," published in Dublin in 1752. In 1717 the Board gave a grant of £60 for the purchase of anatomical specimens to illustrate the lectures of the Professor, but no record remains as to the nature of the purchase.

Hoyle's successors were Thomas Madden, in 1730, and Francis Foreside in 1734, associated with the latter of whom as Demonstrator was Surgeon Vesey Shaw, who continued in office until Dr. Foreside was transferred to the Chair of Physic in 1741, when Dr. Robert Robinson was elected to the Chair of Anatomy, with whom Mr. Whittingham was associated as anatomist. This latter gentleman was also Surgeon to Mercer's Hospital. During Dr. Foreside's period of office the teaching apparatus of the College received a valuable addition in the form of a splendid series of wax models illustrative of human anatomy. These works of

\* Possibly a descendant of the Rev. Joshua Hoyle, sometime Professor of Divinity in Trinity College, who died in 1654.



art were the product of forty years' labour on the part of M. Denouè, Professor of Anatomy to the Academy of Sciences in Paris. They are for the most part moulded on actual bones, and were copied from a series of dissections made for the purpose, and hence are surprisingly true to nature, and probably when fresh were as useful as such models can be. The whole series having been brought to London was bought by a sculptor named Rackstow, by whom, under the advice of a certain Dr. Scott, they were carried across to Dublin, where they were publicly exhibited. Having attracted the notice of the Earl of Shelbourne, they were by him purchased, and presented to the University in 1739. There is a tradition in College that the purchase was suggested by Dean Swift, but, in the absence of document, I have long since learned to distrust all such traditions.

These particulars would have been lost, like the details of many other interesting but almost forgotten events in connexion with the school, which the apathy of the last century has suffered to pass into oblivion, but fortunately they found a recorder in a humble official in College, who at the beginning of this century occupied the position of head porter, and who wrote out a catalogue and history of these models in 1811. I pay this tribute to his memory, as by a curious coincidence he was a namesake of my own, although from the orthography I suppose that he must have belonged to the Irish offshoot of our clan who in the sixteenth century settled near Cushendall, Co. Antrim, on the opposite shore of the channel from their ancestral peninsula.

Anatomical studies were at this time but little pursued in Ireland outside the University, and indeed the amount of anatomy known by the average practitioner may be gauged by the few references in contemporary literature. Thus when, in 1775, Mr. Whiteway performed the autopsy on Dean Swift, his record is that he found much water in the brain.

Standing out, however, in bold relief, we have at least one provincial surgeon who deserves note as an original investigator in anatomy—I refer to Sylvester O'Halloran, of Limerick, whose writings on ophthalmic surgery and anatomy are well worthy of note, and who described the rudimental plica semilunaris as containing a rudimental cartilage comparable with that of the membrana nictitans.

On Whittingham's resignation of his Demonstratorship he was succeeded by a Scotchman, George Cleghorn, who held the office

of Anatomist until 1761, when a number of events worthy of note disturbed the even course of the history. Hitherto since 1695 the Censors of the College of Physicians had acted as examiners for the degrees in medicine in the University, but that College in 1736 passed a law that no man should have a licence to practise midwifery and physic together. A distinguished Dublin obstetrician, Mr. (afterwards Sir) Fielding Ould, having obtained the licence to practise midwifery in 1738, desired to add thereto the University degree, and having qualified therefor by obtaining the Bachelor of Arts degree by special grace, he presented to the College of Physicians the *Liceat ad examinandum* from the University. The College declined to examine him, and protested against being forced to break their law, with the result that the Board of the University in 1761 resolved that they would take part of the examination into their own hands, and to this end they appraised the lecturers in chemistry and anatomy that this function would be added to their lecturing. Dr. Robert Robinson, who was then President of the College of Physicians, and the author of the remonstrance on the part of the College, refused to co-operate therein, and the Board on that account dismissed him, and promoted the Demonstrator in his place, the only case wherein the Anatomist was promoted to the senior office. At the same time they by a special resolution abolished the University Anatomistship, and left Cleghorn in sole charge.

During Dr. Robinson's tenure of office the chief anatomical event was the dissection of the body of Cornelius Magrath, the Irish giant. This unfortunate man, whose height during life was 7 feet 9 inches, was two inches taller than his compatriot O'Brien, whose skeleton adorns the Hunterian Museum. It is rather a disgrace to Dublin anatomists that there is not on record any detailed account of this skeleton nor of the dissection, and the only measurements in print purporting to be of this skeleton are erroneous.\* There is a Trinity College tradition that the body was stolen by undergraduates and carried into the dissecting-room, but this cannot be true, for in *Faulkner's Journal* of that date is the account of a lecture delivered in public by Prof. Robinson on the

\* Ireland seems to have long had a reputation of being a land of giants. Sir James Ware, in his *Antiq.* (Harris), p. 150, describes a skeleton 8 ft. 4 in. long with a skull  $\frac{1}{4}$  inch thick, and toe phalanges 2 inches long, from Forrest, near Coolock, Dublin. The method when the skeleton and its companions were found, called the *valcoaster* funeral, is precisely like that of the burial heap lately opened at Aylesbury-road.

dissection, and in the obituary notice of Magrath, published two days after his death, his dissection in the Trinity College School is spoken of as an ordinary piece of news, which could scarcely have been the case had the story, in anything like the sensational form in which it is current, been founded on fact.

The Dublin School of Surgery had meanwhile been gradually emerging from its original obscurity. Early in the century we find Sir P. Dun was appointed Physician-General to the Army, and after him a Surgeon-General to the Forces was appointed. In 1778 the post was held by Mr. Ruxton, who lived in No. 4 Hoey's-court, three doors from the house where in 1667 Dean Swift was born.

The Dublin surgeons having long felt the degradation of their nominal alliance with the Trade Guild No. 4, agitated in the last quarter of the century for independence and a charter, and in 1784 obtained that whereby the Royal College of Surgeons was incorporated. In the same year the University, stirred up perhaps by the healthy competition, obtained an Act whereby the lecturers were appointed as professors. The alliance hitherto existing between surgery and midwifery was dissolved, and a new association of anatomy and surgery was instituted, which titularly remains to the present day.

The two bodies thus developing had little in common, only one of the founders of the College of Surgeons having been a graduate in arts of the University.

The new College of Surgeons was not long established in the old and dilapidated building at the back of Mercer's Hospital before a School of Anatomy and Surgery was founded therein and opened in 1789. In this place there lectured on anatomy in successive sessions Hartigan, Halahan, Dease, and Lawless. Everything was in favour of the new school. The younger Cleghorn seems to have been of little energy, and has left but little trace in professional literature, except his contribution on aneurismal varix. The University classes were consequently small. In 1786 only six students in medicine matriculated in the University; in 1797 only one. Cleghorn also was laid aside for some time, and the University appointed as *locum tenens* Dr. Hartigan, who, in 1798, had been the President of the College of Surgeons. Under his teaching a reaction set in, and the class in anatomy, which had gone down to 20 or even less, went up in successive years by tens until in 1801 they numbered 78. Hartigan

seems to have been a good teacher, an able surgeon, and a most amiable man, but rather unsystematic, as I find he had written up his class returns in a very erratic manner. Our interest in him chiefly depends on the fact that to him was bound as apprentice the man who was destined to exercise the chief influence for good in Irish anatomical science, James Macartney.

Another energetic anatomical teacher, much younger than Hartigan, was early attached to the School of the College of Surgeons, and began at the beginning of the century to make observations in human anatomy from the surgical point of view. Abraham Colles, whose name is inseparably bound up with the progress of surgery, has left a permanent mark in anatomical literature, and will be remembered in connexion with Colles' middle perineal fascia, Colles' triangular ligament, and Colles' fasciculus of the fascia lata.

On the death of Cleghorn, in 1803, the University Chair was contested by Hartigan and Colles, the former being appointed. Colles challenged the election, but on an appeal being made to the law it was decided that the Board had not exceeded their powers in the appointment. Colles was appointed Lecturer in Anatomy in the College of Surgeons, and held that office from 1805 until 1817.

In 1793, James Macartney, a young man from Armagh, twenty-two years of age, became indentured as apprentice to Hartigan, and for three years pursued his anatomical and surgical studies under his directions. Having signalised himself especially in the former part of his course, and having received as much instruction as could be got in Dublin, he, by his master's permission, sailed for London in 1796, and studied for two years in Great Windmill-street under Baillie, Cruikshank, Cline, and Cooper.

Having benefited by his London studies, and winning golden opinions from his teachers, Macartney was appointed Demonstrator at Guy's in 1799 and 1800; and having obtained the licence of the London College of Surgeons, he was appointed Lecturer on Comparative Anatomy at St. Bartholomew's, where for ten years he lectured, and not only attracted much attention, but produced permanent fruit in arousing the interest of many who afterwards became workers in this field. Sir Charles Bell, attracted by his talent, offered to take him as colleague in Edinburgh, but this he declined, and when a year later Macartney was candidate for a surgical appointment in addition to that to the Radnor Militia,

which he held since 1803, Sir C. Bell wrote to say :—"Macartney is a man of that activity of mind, that expertness in anatomical pursuits, his abilities and industry have been so especially shown in the subject of his lectures, that a regard for science weakens my desire to see him in the present instance successful in his application to obtain the surgeoncy he is seeking."

This was the man who, in 1813, on the demise of Hartigan, sought and was elected to the University Chair of Anatomy in Dublin. With pleasure I linger over his work, as that of the one original Dublin anatomist who combined genius, culture, and industry—an expert anatomist, a philosophical biologist far in advance of his period, with a mind and memory stored with knowledge acquired not by any short cut of books, but by the toilsome, yet thorough, method of knife and forceps. His description of the anatomy of the vascular system of birds has in many respects not been superseded, and his account of the anatomy of mammals may be read with more profit than many modern works. In his account of the brain of the chimpanzee and its comparison with that of an idiot, as well as in others of his papers, there are glimpses of a morphology far beyond that of Cuvier, whose translated works Macartney edited, and his work on Inflammation may be placed side by side with any pathological work of the period, while his researches on animal luminosity form the basis of many of the subsequent researches on the subject.

Although we may learn much of what Macartney was from his published writings, his true memorial is the influence which his suggestive lectures and the enthusiasm of his attachment to science exercised on his pupils—an influence we can trace in the generation which succeeded him. Under his teaching the class rapidly rose. In Hartigan's last year of office, as he was laid aside on account of illness, the lectures were delivered by Dr. Wilmot; and owing to several causes—the disturbed state of the city consequent upon Emmet's rebellion, and other influences—the classes numbered only thirty-three; but in Macartney's first session fifty-three students attended his lectures, the class rapidly increased, and in ten years was more than trebled, just touching the two hundred in 1827. Like other men who live before their time, Macartney was the subject of much persecution, and laboured until 1825 under the disadvantage of teaching in a wholly unsuitable building, which was rapidly falling to pieces. The present anatomical school was built in that

year, and formed the subject of much disputation, as the new dissecting-room (now used as the pathological museum) was characterised by Macartney as "the worst-devised building for the purpose" he had ever seen, his advice in the matter not having been taken. Among his pupils we find the names of Henry Marsh, Robert Harrison, Charles Benson, John Hart, Jones Quain, Hugh Carlisle, Valentine Flood, Richard Corbett, Robert Shekleton, Vaughan Thomson, Benjamin Alcock, John Denham, Philip Bevan, Alexander Carte, Robert W. Smith—in short, almost all those of the succeeding generation who took their places as anatomical teachers.

This is not the place, nor would the time at my disposal now suffice, to summarise the many original and striking thoughts in Macartney's papers. I would only remark that in his manuscript note-book now in my possession, there are the germs of very many of the ideas and lines of work followed out by Macartney's pupils, and reading these it is easy to see from whence the suggestions came which have since borne fruit.

This, then, we may regard as the culminating period of prosperity of the Anatomical School of Dublin—a period when the repute of the teachers brought to our class-rooms students from England, Wales, America, and Scotland, who in some sessions made one-sixth of the entire class—a period in which the teaching was certainly equal to, if not ahead of, that in any other school. Macartney may well be compared with his contemporary, Robert Knox, and to his advantage, for in many respects he was Knox's superior; and we deeply regret the circumstances which lost to Dublin those treasures of anatomy and pathology which it was the pleasure of his working life to accumulate, and which formed such an important element in the museum of Cambridge.

Macartney's influence was due as much to his method as to his great attainments. He demonstrated carefully in the dissecting-room, and says himself that he believes he erred on the side of too much superintendence. He divided his dissectors into classes, and arranged that they should be mutually helpful. He had his teaching museum freely open at all times, and always available to students. He lived in days before histology was understood as it is now, but in his introductory lectures he laid down as fundamentals that anatomy was threefold—1st, of form and position of parts in relation to each other; 2nd, of structures, the minute or intimate structures of these parts by which their functions are

determined; 3rd, of disease, whereby the changes in structure, form, and position are recognised. He proceeds then to point out that "in treating the diseased state of any organ of the body, it is necessary to understand what is the intimate structure of the part, how it is influenced in its actions, and how it influences other and often remote organs in return. All diseased actions," he continues, "are carried on in minute structures; it is not the large but the very smallest vessels which are engaged in inflammation, in tumours, and in disorders of secretion." With him, then, pathology is based on histology, and it is in improved knowledge of the structure and formation of tissue-elements that an advance in pathology is to be looked for.

The generation trained under such tutelage could not fail to show in its work some traces of the teacher's influence. Early in the period Jacob, then Macartney's Demonstrator, published his *Observations on an External Layer of the Retina, and on the Radiating Fibres of the Iris*, in "Thomson's Annals of Philosophy," 1818, and in the "Medico-Chirurgical Transactions," and he had been engaged in a course of Demonstrations of the Anatomy and Pathology of the Eye, in the University School, under Macartney. Crampton had also, in 1811, written his *Observations Confirmatory of the Muscular Ciliary Apparatus in the Eyes of Birds*, which had been demonstrated in 1759 by Porterfield, but which had been suspected long before; indeed, in 1655 Bartolini, in his "*Anatomia Reformata*," says of the ligamentum sclerotico-chorioideale—"Usus est ejus movere crystallinum ut hujus satis pro varia visus necessitate immutetur." Houston, son of a Presbyterian clergyman of Ulster, another original worker, had described the so-called valves in the rectum, and had done an elaborate piece of work in connexion with the muscle first noticed by Shekelton—the compressor venæ dorsalis penis. Although we know that he was misled throughout, and that in man this muscle is exceedingly rare—not nearly as common as the slip to which the same function was assigned by Kobelt in 1844—yet he deserves much credit for the amount of labour which he bestowed on this investigation. Another name which deserves to be commemorated is that of Valentine Flood, Lecturer on Anatomy in the Richmond School, whose description, in the *Lancet* of 1829, of the superior of the intracapsular gleno-humeral ligaments was undoubtedly the first notice of that structure, the relations of which, and of the other similar bands, have been more fully and recently described by

Schlemm. In relation to the anatomy and physiology of the rectum we might also refer here to O'Beirne, if only for the purpose of recalling the rather amusing controversies regarding priority between him and O'Ferrall, also known as the describer, after Tenon, of the capsule of connective tissue at the back of the eye, the *bursa mucosa oculi* of Linhart.

The number of private schools which sprang up in Dublin during the third decade of the century afforded a field for this race of anatomists, and the names of Jacob and Benson, at the College of Surgeons; of Flood, Power, Mayne, and M'Dowel, at the Richmond; Harrison, at the University; Alcock and Corbet, in Cecilia-street; Bevan and Stoker, in Peter-street; Hart and Hugh Carlile, in Park-street; Carte, in Digges-street; Denham and Hans Irvine, in Marlborough-street—formed a goodly array at this period.

In 1835 appeared the first part of the "Cyclopædia of Anatomy and Physiology," and in this undertaking Dublin contributions bulk largely, and Dublin contributors were not a few.

The general character of the work done by the post-Macartney school, whom we may call the Cyclopædists—men who have lived and laboured so near to our own day—it is not easy to criticise. Probably out of London no such body of men could have been found in any centre of intellectual activity; but, candidly examining their works, we must confess that there is throughout the whole series of productions from this school a thorough lack of originality. We search the whole series through for a single morphological conception, and fail to find it; we search for physiological discoveries and find none. Even original observations of new anatomical facts are very few and far between. The "Dublin Dissector" is the characteristic product of this school of teachers—a careful and elegant compilation, showing a close acquaintance with the writings of the French School of Cloquet, Cruveilhier, and Beclard. The Cyclopædia articles are representative also.\* They all deal with subjects of common dissecting-room anatomy, and, except perhaps those of Alcock, they never rise above the manual level; the references to comparative anatomy are borrowed, and the embryological paragraphs are of the crudest

\* During this period it is characteristic that almost the only anatomical contributions read before the Surgical Societies were two by Harrison, on the Anatomy of an Elephant, and one, a very carefully worked-out paper, by Dr. Carte, on the Spiral Valve of the Shark—both carefully done, but neither showing much acquaintance with the then existing literature of either subject.



and most antiquated; in neither respect are they abreast of the knowledge of their own date.

While thus, from the close of the Macartney and Colles epoch, the teaching had descended into the hands of a very respectable mediocrity, other influences were rising which were destined to exercise a most pernicious influence on the very existence of a scientific study of anatomy in the Dublin School. The introduction of the competitive system for the public service, especially the great demand for army surgeons about the time of the Crimean War, caused a rush of students to our Dublin Schools. It is not too hard upon these to say that a large proportion were not actuated with any zeal for their profession, and that with these the chief object was to obtain just enough knowledge to enable them to enter the service. The effect of this upon the Dublin School was dismal in the extreme, and the era of the Cyclopædists had scarcely closed ere the period of the grinder's domination opened. Under this *régime* legitimate teaching counted for little. Cram was the overruling genius, and the lecture-rooms and dissecting-rooms were no longer the important places of anatomical learning, while the grind-rooms were filled. The genius of this age rose as high as the intellectual effort necessary to affix the mnemonic *Cip tea* to the coraco-clavicular ligaments, *Bodfi* to the middle cornu of the lateral ventricle, or to make of the initials of one of our most eminent surgeons a means of remembering the order of the styloid muscles, and that most pernicious system, the delivery of spouting demonstrations, largely replaced the patient individual knife and forceps work of the student.

To Professor G. J. Allman, while Professor of Botany in the University of Dublin, is certainly due the credit of the inception of modern morphological teaching in Dublin, and the introduction of the microscope as a means of practical instruction. In connexion with his name should be coupled that of Dr. Robert MacDonnell, who did for physiology what Allman had done for morphology. Their science, however, was too much in advance of their surroundings, and the chief mark made thereby was the stirring up of a spirit of inquiry on the part of a few, fitting them for what I may call the period of the renaissance which was to come when the great wave of scientific advance consequent on the publication of the greatest book of the century—Darwin's "*Origin of Species*"—had rolled over and reached our shores.

The founding of this Section in the Academy of Medicine

in Ireland shows that we have been aroused from the torpor of this dull and dreary period. The development of arrangements for practical work and the healthy insistence on compulsory laboratory and dissecting-room personal work on the part of the student; the increasing stimulus of practical examinations; and the influence of that active body of young men who have had the advantage of one or more sessions in foreign schools—all these influences combined have enabled us to rise by degrees from the degradation into which the Anatomical and Physiological School of Dublin had sunk; and now *per varios casus, per tot discrimina rerum*, the Dublin School is in a position to give to its students a genuine training in the two leading branches of biology—morphology and physiology. Every stage of progress has its own danger, and while that which formerly beset the School in its best days was a tendency to regard anatomy too exclusively as solely important from its relation to operative surgery, the present-day danger in the opposite swing of the pendulum of opinion is the fear of our teaching being too theoretic or scientific, and paying too little regard to its more direct practical bearing. The middle course is that of true utility, and is the only way to render anatomy really interesting.

Much yet remains to be done even in dissecting-room anatomy, still more in histology, comparative anatomy, embryology, and pure physiology; and in the search after new facts and reliable deductions we have the encouragement given long ago by Steno—*"Pulchra quæ videntur, pulchriora quæ sciuntur, longe pulcherrima quæ ignorantur."*

ART. II.—*Gangrene of the Lung, in which the Cavity was Tapped.*

By J. MAGEE FINNY, M.D., Dubl.; F.K.Q.C.P.I.; King's Professor of Practice of Medicine; Physician to Sir Patrick Dun's Hospital.

GANGRENE of the lung is a disease of great rarity. It consists in the death of the lung-tissue associated with putrefaction owing to the admission of air. It may be either *circumscribed*, the size of a filbert or hazel-nut, or it may be *diffused* through a considerable portion of one lobe, causing a cavity large enough to receive an orange or even the human hand.

It may appear as an idiopathic or primary affection, though more commonly it develops itself consecutively during the progress

of some other lung disease, the most common being pneumonia occurring in the decrepid or in drunkards. In such cases possibly two factors are at work to produce it—(1) the hindrance to the circulation by the pressure exerted on the capillaries of the lung by the inflammatory exudation, and (2) the already defective and impoverished condition of the blood. Embolism of the pulmonary or bronchial arteries, hæmorrhagic infarction and putrid infection in the neighbourhood of the lung, foreign bodies in the air passages, decomposition by means of chemical agents, and traumatic influences, have all been noted to precede, induce, or accompany gangrene. It is, however, usually the circumscribed form of Laennec which is thus noted. Diffuse gangrene is very much rarer and its ætiology much more obscure. Hertz states it attacks by preference the upper lobe. Hope states that Laennec had seen but two cases of diffuse gangrene from all causes, Andral but one, and Hope but one.

It has fallen to my lot to have met with three cases of diffuse and one of circumscribed gangrene of the lung in hospital practice. All these cases occurred in the years 1882–83. Of the diffused varieties two occupied the lower lobes, right and left respectively, and one the left upper lobe primarily, and secondarily the left lower lobe and the right middle lobe. All the cases were in male patients ranging in age from twenty-two to forty-seven. Full particulars of the two cases of 1882 are given in the "Proceedings of the Pathological Society of Dublin," 1882, Vol. IX., pp. 105–108.

These cases impressed me forcibly with the uncertainty and obscurity which enshrouds the subject of the ætiology of the disease, the difficulties of accurate diagnosis of the exact locality, size, and shape of the gangrenous cavity, and as to whether it is entirely pulmonic or partly pleural as well, and of the small practical advances medical science has made towards its alleviation or cure.

Within the last three years, in a very limited number of instances of abscesses in the lungs (fœtid or gangrenous), physicians have been led to advise incision and tapping of the lungs, and surgeons have been courageous enough to act on that advice, and to give by operative proceedings through the chest wall a freer exit to the pent-up fœtid pus and the lumpy rotten matter than existed through the smaller bronchi; and in a case of gangrenous pleurisy reported by Wagner (*Berliner klinische Wochenschrift*, September 6, 1880, p. 511) a piece of gangrenous lung-tissue, 7 cm. long and 3 cm.

broad, was removed through the incision of the chest wall, when the fœtor immediately stopped and the patient recovered.

The last case of diffuse gangrene of the lungs came under my care last November, and I now bring it forward as a contribution towards the subject of gangrene of the lung. So far as I have been able to discover it is also the second instance in which incision and tapping of the gangrenous cavity was resorted to as a means of treatment. For this reason I desire it to be looked upon as a contribution to the practical literature of the subject, and in no way as laying down dogmatic rules for the management of such abscesses. Be the issue what it may of any new and untried line of treatment—which has been based on sound principle and honestly carried out—be it successful or the reverse in any given instance, it is our duty as humanitarian physicians to record such issues in all honest faith, and in the hope that when sufficient data are accumulated and experience is acquired, a sound reliable opinion may be formed of the utility or inutility of such treatment as a means of alleviation or of cure.

However much at the first blush one might be disposed to be biased in favour of or against attempting to evacuate externally the contents of a pulmonary cavity, according as the cases in which methods with such an aim have been adopted be successful or non-successful, I feel sure that in suspending one's judgment—while waiting for further light—the best possible help is being given towards placing the treatment of gangrenous cavities upon a sound and scientific basis. For this end, owing to the rarity of such cases, and the still greater rarity of cases in which incision has been or will be practised, one must be prepared to wait much longer than in perhaps any other case where operative proceedings are *sub judice* as a method of treatment.

As bearing upon the rarity of gangrene of the lung, it may be interesting to note that from the years 1847 to 1882, inclusive, the "Proceedings of the London Pathological Society" contain but ten instances of gangrene of the lungs recorded in the thirty-two volumes, and many of these are of the circumscribed variety.

CASE I.<sup>a</sup>—*Left Pleurisy—chiefly Diaphragmatic ; Pneumonia of Lower Lobe of Left Lung ; Gangrenous Cavity in Lower part of Upper Lobe ; Secondary Right Pleurisy, and Secondary Circumscribed Gangrene of Middle Lobe of Right Lung ; Exploratory Punctures ; Incision below Inferior Angle of Left Scapula ; Drainage Tube Inserted ; Cessation of Fœtor of Breath and*

<sup>a</sup> From daily notes taken by Mr. Robert M'Adam, clinical clerk.

*Expectoration ; Gangrenous Emphysema of Skin ; Death by Adynamia.*—Michael H., aged thirty, labourer, was admitted to Sir Patrick Dun's Hospital under my care on November 3rd, 1883, on the order of my surgical colleague, Dr. Charles B. Ball, who had seen him at his own house, and who had described his case to have been one of the most severe forms of acute left pleurisy, with much more pain than is usual. In the beginning the pain was chiefly referred to the left hypochondric and left epigastric regions, and needed large opiates to ease it. There was not much fever, and but little cough, without expectoration, at any time he had visited the patient. The friction of pleurisy was extremely well marked, and when sent to hospital there was evidence of moderate effusion.

The appearance of the man on admission was little altered from that of a fairly robust healthy young man, and very different from what a preconceived idea of gangrene of the lungs would picture ; and his history was in accordance with his looks. His habits, though not steady, were not those of intemperance, and his usual drink was porter. There was no history of syphilis, nor of any previous debility or of constitutional ill health, nor was he engaged in any trade, nor exposed to any circumstances to which the disease could be attributed. He states his present illness was due to a severe wetting three weeks before admission to hospital, and began a couple of days after by shivering fits. These attacks lasted, with intervals, for two or three days. Nearly a week elapsed before he felt any considerable pain, which then attacked him low down on his left side in the mid-axillary line. The pain was most acute, and was aggravated by every effort of respiration ; so that he thought he should have been suffocated had it not been for the relief Dr. Ball was able to give him. The pain was still present, but to a very much less degree, when admitted, and referred to the region of the left nipple, as well as to that of the hypochondrium ; and at the former a slight friction sound was audible the next day. There was little or no cough, and no expectoration until he had been seven days in hospital. During this period, which preceded the gangrene, as a calm before a storm, the pulse—excluding the night of the day of admission—was 90 in the evening and 84–78 in the morning. It was not a strong pulse, and tallied rather with the description given by Dr. Anstie of the pulse in pleurisy of over a week's duration, as being soft and compressible. The temperature was 100° for three consecutive mornings, but rose to 102·5°–103° the first three evenings, to 101·4° on the 4th, 102·4° on the 5th and 6th, and 103° again on the 7th. There were, however, no night sweats, and though the respirations were unduly fast in proportion to the rate of the pulse (1 to 3), there was no “*besoin de respirer*,” nor were the *alæ nasi* working. It was, therefore, attributed to the pleuritic pain, which prevented deep respiration. The tongue was indented, and coated with thick

white fur; decubitus dorsal, and towards left side; change of posture to the right caused uneasiness and pain in the left side in the situations described; but the patient was able to move himself readily, and to undergo a physical examination on November 5th, both lying down and sitting up. The following was the note made at that date:—The left side, at its lower part, did not move during respiration as freely as the right; it appeared slightly bulged, and from below up to the level of the sixth rib, in the anterior axillary line, there was dulness on percussion. The line of dulness changed a little—but still a little—on change of posture; and, as is usual in pleurisy, with moderate effusion, or in encysted pleurisy, the upper limit was not horizontal, but followed the slope upwards of the sixth intercostal space from before backwards. Over this area there was an absence of vocal fremitus and respiratory sounds, while above it and on the opposite side both these signs existed. The impulse of the heart was felt a little nearer the sternum than normal, showing the displacement of the organ to be slight. The urine was examined then and on several subsequent occasions, and was seemingly normal in quantity, specific gravity, reaction, and in being free from albumen.

The diagnosis made on the 5th November was “limited pleurisy, with effusion, with probably a thickened pleura.” At the same time I took the precaution to point out to the class who were present, and to my clinical clerks, the importance of the high evening range of fever as a signal of danger, and suggested the possibility of the occurrence of either pneumonia in the lower lobe, or a purulent change in the pleural contents. The treatment was chiefly symptomatic, and consisted of milk and beef tea dietary, with aperient pills, and a vegetable bitter mixture; while large poultices to the side were agreeable to the patient’s sensations. He slept well without narcotics, and seemed going on well till November 9th, the seventh day in hospital, when he was noticed to have a flush on his right cheek, and to look feverish and badly. He now coughed a great deal, without much expectoration, though one or two sputa were viscid and rust-coloured; the usual morning remission of fever did not take place, and by the evening it reached 103°, while, at the same time, the respirations ranged 56, and the pulse 100.

There was no doubt now of a pneumonic complication in some deep part of the lobe, in spite of the absence of the auscultatory signs proper to the disease, and notwithstanding the presence of the signs already described on the 5th, which remained quite unaltered. I was not, however, prepared for the unmistakable nature of the pulmonary complication which the following twelve hours revealed.

During the thirty-six hours of the 9th and 10th November, he suffered from constant distressing cough, so that sleep was absent for two nights, and rapid exhaustion was induced. On the night of the 10th he

suddenly became alarmingly ill, and coughed up over half a pint of extremely foetid greenish gray sputa, each cough bringing up a mouthful of this abominably stinking material. He now fell into almost a state of collapse, and on the morning of the 11th the patient's appearance for an hour or two was most alarming, as there was cyanosis of the extremities, and a brown-red lividity of the face and forehead and temples. His respirations rose to 62 in the minute, while the heart beat but 90, and the first sound was absent over the base of the heart. Under free stimulation by a mixture of carb. ammon., ætheris Hoffmanni, tinct. belladonnæ, and ol. terebinthin., and by egg flip, he rallied, and in a couple of days all signs of immediate danger passed away, and the fever settled down to a remittent type of a mild degree for a week—101° at night, and 99·4° in the morning—and the respirations came down to about 42, and the pulse stood generally at 100.

The treatment was quinine, stimulants, and the vapour of carbolic acid, and oil of eucalyptus through an inhaler. The oil of eucalyptus was by experience proved to be the best deoderant for the bed and the spitting-cup. It did not, however, prevent an occasional stench of an overwhelming character, proceeding from the patient's breath, and this aggravation of the smell nearly always followed a day in which he did not cough up the usual amount. For the first two or three days the quantity coughed up was about half a pint, and afterwards one-third. The sputum was examined microscopically by Mr. M'Adam and myself after he had prepared it according to Fenwick's method, by boiling the "output" of twenty-four hours with dilute liq. potassæ. No elastic or other pulmonary tissue was discovered, but a great quantity of yellow granular masses and small oil globules and *débris*. Traube remarks that the absence of elastic tissue is the rule in microscopic examinations of gangrene of the lung.

During the ten days subsequent to the discharge of the gangrenous sputa he rapidly emaciated, while his digestion was quite disordered by the smell and presence of the sputa, some of which involuntarily were swallowed, so that the tongue became coated with a thick yellow fur; there was complete anorexia, and attacks of diarrhœa were induced. The physical examination of the chest showed the presence of metallic tinkling at the level of the fifth rib in the axilla the day following the first discharge of the broken-down lung tissue, and a tympanitic note could be elicited over a small area in the anterior axillary region the next day, while the lower part of the side was dull and airless.

Day by day the signs of a large cavity became more marked—amphoric respiration, metallic tinkling, and, when there had not been much coughing, a splashing sound could be detected on succussion.

On 16th I asked my colleagues to consult with me on the advisability of tapping the gangrenous cavity, which was now known to exist, and

which extended from the region of the normal apex beat back to the interscapular line at the fifth and sixth ribs. There was doubt as to the cavity being wholly pulmonic or partly pleural and partly pulmonic. It was decided by the majority of my colleagues that incision of the lung should not be undertaken; that it would be premature to think of such a course until the cavity could be made out by exploratory puncture with an aspirator-needle; but as the symptoms were not urgent, and the cavity seemed to be thoroughly evacuated by the bronchial tubes, Dr. Bennett postponed operating for five days. Another reason for delay was the occurrence of a dry pleurisy of the right, or previously healthy, side, which took place on this day (16th). This pleurisy was chiefly of the dry nature. It began in front, above the liver, and extended upwards and backwards, and was readily marked out by the friction. It then became arrested, and was followed by moderate congestion, causing dulness for two to three inches, and afterwards of a soft, moist crepitus over the lower part behind. These indications strongly suggested the occurrence of pleuro-pneumonia, due to the secondary poisoning of the opposite lung, and the possibility of its ending in circumscribed gangrene.

On 21st Professor Bennett, with the assistance of Dr. Ball, inserted the aspirator-needle in the mid-axillary line, above the seventh rib, and passed it in till its point seemed to lie in the lung as it received a movement at each act of respiration. The results were completely negative as regards withdrawing any fluid and transmitting any bad air. No bad results followed to the patient. The point for exploration was not that where the amphoric respiration indicated the close presence of the cavity, but it was feared to introduce the needle in a region where the heart's impulse was most distinctly palpable—that is, just below and outside the left nipple.

On 24th I made an exploratory puncture with a hypodermic needle over the middle of what seemed to be the chief cavity—that is, the upper border of sixth rib, near the angle of the scapula, and I withdrew a couple of drops of gray, very foetid matter. I was induced to do so, as the poor man for the last three days was rapidly wasting and becoming very weak, and his powers of expelling the rotten lung tissue were failing, and it occurred to me that, late though it was to give free vent to the contents of the cavity—for had I not been over-persuaded I would have attempted the operation of tapping the cavity ten days before—it was a *dernier ressort* which it would have been wrong to have refused the patient, in the hope that, were the retained and pent-up foetid matters no longer a direct source of infection, his digestive powers might regain sufficient vigour for assimilation. Accordingly, at 4 p.m. (Dr. Chute, our house surgeon, rendering all assistance), Dr. Bennett cut down upon the seventh intercostal space, hoping to reach the bottom of the cavity my exploratory puncture had struck, and thereby to obtain



better drainage; at the same time he avoided the end of the scapula, which might have traversed and interfered with the line of incision. The intercostal space was next opened by the knife and finger, and the pleural cavity was reached. A large trocar was then inserted, and on its withdrawal a small quantity of foetid flaky curds, partly stained with blood, were forcibly ejected, while, with each act of respiration, the air whistled in and out. It was evident a cavity had been successfully opened, though I was disappointed at the quantity which escaped through the opening, knowing as I did the large size of the cavity I had mapped out. A full-sized rubber drainage tube was then passed through the canula and fixed, and the latter withdrawn, and the wound was covered with a thick coating of wadding, rendered aseptic by corrosive sublimate.

The operation was performed as the patient sat forward, was well borne, and accompanied by no undue coughing. There were but two sputa, of a sanguinolent colour, coughed up; and, in fact, there was no more expectoration afterwards, and the cough became much less distressing. A quiet night was obtained by a grain of opium, given every fourth hour. As the whistling noise was not heard through the dressing, over the tube, it was examined twenty-four hours after the operation, and found closed. It was cleared by means of a probe. A large portion of the dressing was saturated for several inches with discharge. The dressing was changed. It was, however, noticed that the foetor had greatly disappeared.

The patient's ordinary position was on his back, and towards the left side, and, as he had hardly moved from the time of introducing the tube, the latter became bent, and the putrid matter had passed outside it. A new complication, however, was thereby induced, for some of the gangrenous fluid must have infiltrated the cellular tissue of the skin. The result of this was an extensive surgical emphysema. It extended downwards at first towards the abdomen, giving rise to a fallacious idea of flatulence on percussion, and it afterwards passed up to the axilla and pectorals on the left side. The air was chiefly over the left side, and could be easily pushed before the finger or hand. In several spots a small puncture was followed by a whistle of escaping air, which was free from all foetid odour. Things went now from bad to worse, and the patient sank on the 26th, in the afternoon.

The *post mortem* examination was made sixteen hours afterwards.

The gangrenous emphysema of the skin extended from the thorax to the left scrotum, and on removing the skin and muscles, so as to expose the thorax freely, the muscles of the thorax, front and back, were converted into gangrenous matter of a yellow-green colour, and broke down under the finger. No trace, except on the skin, either outside or inside the thorax, of the exploratory puncture made on 23rd, could be detected;

but it was plain that it was too low down to touch the chief gangrenous cavity, which was found to occupy the lower part of the upper lobe of the lung, and to extend from the anterior thin portion between the heart and the fifth rib, backwards to the fifth and sixth ribs, near their angles. The lung was adherent to the fifth intercostal space and the sixth rib, in the anterior axillary line, and in separating it a small rupture took place, as these tissues seemed to form the outer wall of the cavity. The gangrene was diffused.

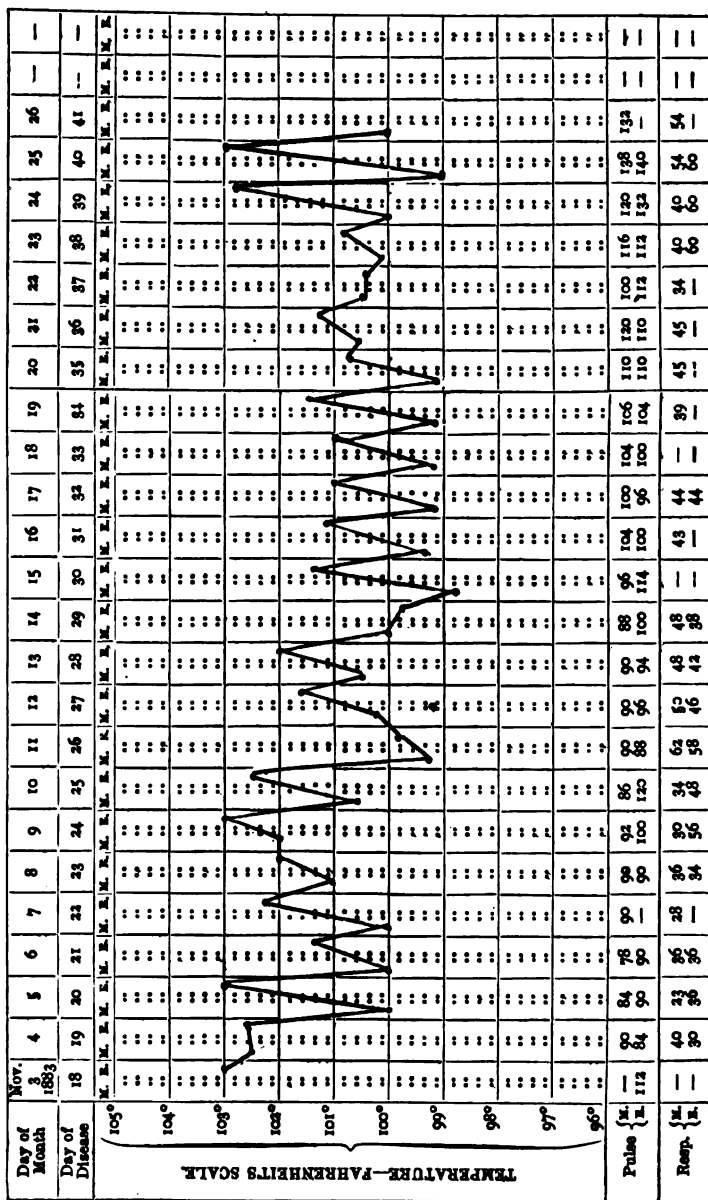
Hope's description of the lung tallies so exactly with that of the specimen I describe, that I shall give his words:—"The lobe in diffuse gangrene is surrounded by the third degree of pneumonia—in part it blends insensibly with purulent hepatisation, in parts it forms an imperfect shelvy cyst surrounding an excavation; the pulmonary tissue is extensively softened, so that at any part the finger pierces with facility through to the pleura; in the centre it is resolved into a putrilaginous pulp, consisting partly of a thin, brownish-black fluid, which accumulates in all the depressions, and partly of shreds and fragments of cellular tissue from which the fluid has strained, and which may, in some parts, be drawn into irregular bands. The colour varies from yellowish-brown to brown-black, deep muddy green, and dim dirty red, promiscuously intermingled. The gangrenous odour is insupportable."

The lower lobe was quite out of sight, and contracted into a small wedge-shaped reddish mass, intimately adherent to the diaphragm below by the thickened lymph exudation. Passing back from it was seen the rubber tube, which had thus evacuated a small cavity (size of a small apple), and missed the larger chamber, a couple of inches above. Its whole substance was in the third stage of pneumonia, and broke down in the fingers on removing it. The lower part of the pleural cavity contained some gangrenous flakes and fluid, and was completely bridged across by firm bands of recent lymph, stretching from the diaphragm to the sixth and seventh ribs, towards the axilla.

There was thus every confirmatory evidence of a primary left pleurisy, a collapsed lower lobe, bound down by adhesions, undergoing the last stage of pneumonia and becoming gangrenous, and a gangrenous cavity of wide dimensions in the region mapped out.

Interest attached to the examination of the right lung, and a recent but dry pleurisy was found over the lower two-thirds. The middle lobe was in a state of gangrenous inflammation, and was

CHART OF TEMPERATURE, PULSE, RESPIRATIONS, &c.  
 Name, Mike H.; Age, 80; Disease, Gangrene of Lung; Result, Death.



adherent to the diaphragm in one spot, and this was found to be due to a circumscribed gangrene, the size of a small orange, the lower wall of which was the diaphragm, and into which muscle the gangrenous discoloration could be traced. The abdominal surface was, however, quite free from disease.

No structural alteration was noticed in any other organ.

*Remarks.*—The failure which attended our endeavours to prolong the patient's life, and, if possible, by removing the centres of auto-infection, to give him a chance of life, was, I believe, attributable to the following three causes:—1st, the operation was delayed too long; 2nd, it was too low; and 3rd, there were more gangrenous cavities than could be discovered.

Should such a case come again under my care or seek my advice, I should be disposed to recommend that the operation of tapping the cavity should be attempted *as soon* as ever a cavity could be satisfactorily made out, and that the exploratory puncture should be made in the spot where the most prominent or evident physical signs of the cavity existed, and where the cavity approached the chest wall. A similar remark as to the position of tapping cavities in the lung and as to the advisability of not performing it too low is made by Messrs. Douglas Powell and W. R. Lyell (*British Medical Journal*, June 9, 1880). In their case the trocar was introduced in the eighth space in the mid-scapular line, and a small quantity of matter came through the canula and drainage-tube. The immediate results were great relief to the patient's cough and a cessation of expectoration, showing how much of these symptoms may be and probably is due to the irritation of the retained morbid matter rather than to its quantity. After death, which occurred fifty days after the operation, the lower lobe was found to be made up of a number of intercommunicating cavities, and the smallest of these and the lowest was that which was tapped, the part entered not being more than one-eighth inch above the diaphragm.

The only instance, as far as I can find, of a case of pulmonary gangrene having been treated by operative proceedings is that described by Mr. Solomon Charles Smith, the Surgeon to Halifax Infirmary, England, in the *Lancet*, Vol. I, 1880, p. 86, and to it I will shortly refer. The patient was an elderly man (aged sixty), who, after a week's illness with pneumonia of the middle lobe of the right lung, suddenly developed the symptoms of gangrene of the lung, coughing up half a pint of foetid matter, and was soon

brought to death's door. After a rally he continued to expectorate 4-6 oz. of the gangrenous material, but when the expectoration was stopped extreme adynamia set in. As the evidence of a cavity of the middle lobe were sufficiently pronounced it was decided to give the patient a chance of life, of which, were he not operated on, he seemed to have little hold. An aspirator-needle was inserted at a point near the angle of the scapula, and through it very foetid air escaped. Using the canula as a director, the knife was carried in between the ribs and by its side a dressing forceps was introduced, and the wound sufficiently dilated to admit a drainage-tube. For a week free discharge of foetid fluid escaped, and expectoration and foetor of breath was greatly diminished. The cavity was washed out daily by carbolic acid irrigation. The patient seemed much more comfortable and enjoyed his food. However, the discharge began to be diminished on the eighth day, and the fever rose again, the wound assumed a gangrenous appearance, and the patient died seemingly of cardiac failure four days later. Unfortunately there was no necropsy.

Mr. Smith's statements from a personal review of his case are fairly put. He says—"I think, then, that although many observations are required before the indications for the operation of incision in gangrene of the lung can be laid down, it is probable that the following will be found a fair tentative proposition:—That when (1) the opening through the bronchi seems to be inefficient as an exit for the fluid, or the passage of the gangrenous ichor seems to be setting up irritation in the bronchial mucous membrane, (2) the patient's appearing to sink rather than to rally, and (3) auscultatory evidence of a cavity can be heard, an incision with a view to drainage is justifiable."

Drs. Fenger and Hollister, of Chicago, have collated six cases of opening and drainage of cavities in the lungs (*American Journal of the Medical Sciences*, Vol. 82, p. 370, 1881). Case I.—The first was, in 1878, performed by Radek for a supposed empyema, but which proved to be an abscess of the lung. Case II.—The second was a large abscess in the lower lobe of the left lung with foetid expectoration. Incision was made by Dr. Sutton, Pittsburg, in March, 1881, in the sixth intercostal space, with drainage and washing out with carbolised water. Great improvement took place and lasted for nearly two months, the patient being up and about for twenty-six days and on a fair way to recovery, when he died suddenly. The abscess was in the lung, the two pleuræ being

glued together. Case III. is one reported by Drs. Douglas Powell and R. W. Lyell in the *Lancet*, Vol. II., 1880, p. 12, to which reference has been already made, of multiple fœtid abscesses of the lower lobe of the right lung subsequent to bronchitis and pleuropneumonia. Incision was made in the eighth space, but owing probably to insufficient drainage a return of the fœtor occurred, pleuropneumonia of the opposite lung ensued, and death took place fifty days after the operation—a result which might have been averted had the incision been made at a higher level. Case IV.—Dr. Williams tapped a bronchiectatic cavity twice with an aspirator-needle. Each cough was followed by a rush of air under the skin, and though the air had a very fœtid odour it did no real or permanent harm. It may be worth while to allude to the fact that cutaneous emphysema has been known to occur in cases of pulmonary cavities without surgical interference, and Dr. G. Galli describes such an occurrence in the case of a phthisical girl, aged seventeen, who had an extensive cavity at the apex of the right lung (*London Medical Record*, Vol. V., 1877, p. 493). One day the fever increased, pain was referred to top of the chest, and emphysema was noticed, and which spread to the whole right side of chest, neck, and face. The air was found to have passed through the third intercostal space, as the pleural cavity was obliterated, and the ribs limited the lung cavity. Case V. is that to which I have referred at length above as being similar to mine, described by Mr. S. Smith; and Case VI., in 1880, is a very fully-described and carefully reasoned-out instance of fœtid abscess of the right lung (middle lobe), the result of suppuration of a large hydatid cyst. Drs. Fenger and Hollister made first an exploratory aspiration, and then incised the thorax in the third intercostal space  $2\frac{1}{2}$  inches to the right of the sternum. A digital exploration of the cavity was made and a counter-opening in the fifth space in the axilla. A large drainage rubber-tube was inserted, the cavity washed out with weak carbolised water, and finally a perfect recovery took place after some 8–10 weeks.

I have not been able to find references to any more recent cases than these I have detailed, but sufficient has been advanced, I believe, to warrant the following propositions:—

1. That the primary indication in cases of extensive gangrenous cavities is to prevent the putrid matter becoming a centre of infection, and thereby not only poisoning the whole system, but by its direct contact (*a*) causing an extension of the gangrene in the

neighbouring tissue of the lung, or (b) by being sucked into the bronchi of the other lung or other lobes of the same lung, inducing a gangrenous broncho-pneumonia. In the words of Hertz (Ziemssen's *Cyclop.*, Vol. V., p. 431), "the *indicatio morbi* also imperatively demands the evacuation of the sputa out of the cavity," and in connexion with this I may mention that inversion of the patient's body, as in drowning, has been suggested.

2. That in cases of diffuse gangrene the probability of recovery is extremely small. Indeed, according to most observers diffuse gangrene from its nature runs an inevitably fatal course, and that therefore to attempt to cure such cases by antiseptics taken internally, such as tinct. eucalyptis in 6-8 grm. doses a day (as advocated by M. Reynaud in the *London Medical Record*, Vol. VIII., 1880, p. 229), or by inhalations of carbolic acid, turpentine, &c., is but to dally with the disease and to give it greater head.

3. That under these circumstances it is a justifiable proceeding, if not the right treatment, to provide means of evacuating the cavity of its rotten and putrefying contents through the skin.

4. That the operation of incision and tapping of basic cavities in the lung is one which has been successfully performed with immediate benefit, and that when death has occurred in cases so operated on, death has not been directly due to the operation, but rather to its not having been thorough and efficient enough.

5. That in cases of diffuse gangrene of the middle or upper lobes, operative proceedings are quite as urgently, if not more urgently, called for as when it is of the lower lobe, since from the natural gravitation from the upper to the lower lobe there is greater risk of secondary infection of the dependant part.

6. That exploratory puncture and aspiration should be first attempted, and should the cavity be reached immediate steps be taken for incision and tapping.

7. That the incision should be over the centre of the cavity, as well as can be accurately determined, and wherever it approaches nearest to the chest wall, and it may thus occupy the anterior as well as the posterior wall of the chest.

8. That the question as to the mode of operation is one at present upon which opinions differ, though it seems to me advisable that an incision should be made only down to the intercostal muscles, and that afterwards a trocar and canula should be passed into the lung to a depth of 3-4 inches, and that a drainage-tube of sufficient size should be substituted for the canula.

As to the nature of the drainage-tube most prefer the soft india-rubber, but Lyell advocates a silver tube, and Erichsen a flat vulcanite trocar and canula.

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ART. III.—*The Antagonism of Drugs.*\* By WALTER G. SMITH, M.D.; King's Professor of Materia Medica in the School of Physic in Ireland; Physician to Sir Patrick Dun's Hospital.

THE subject which I wish to bring before you on the present occasion is the antagonism of drugs. Although some crude notions of antagonism must almost necessarily have arisen as soon as men began to compare the action of different remedies, and to observe that—*e.g.*, some acted as depressants, others as excitants, yet it is truly one of the most recent branches of pharmacology (*i.e.*, the science of the action of remedies), and that it must needs be so is easily seen. In the first place, exact investigations into the actions of drugs were in many cases scarcely possible until chemistry placed at our command the active principles of drugs in an isolated and pure condition; for experimentation with crude drugs—*e.g.*, opium and cinchona, each of which contains several well-defined active principles—would be waste of time. Again, such inquiries could not be fruitfully prosecuted until the methods of modern physiology were available, whereby we can track out the paths which a drug follows after its entry into the system, and fix upon the special functions or organs which come under its influence; for ever since the brilliant labours of Magendie, in the beginning of this century, localisation of action is the fundamental note of pharmacology, even as localisation of function in definite areas is the goal aimed at in the domain of nervous pathology.

Let me now endeavour to state clearly the questions which we shall attempt to answer:—

1. What is meant by antagonism?
2. Does reciprocal antagonism between drugs exist, and, if so, to what extent?
3. What practical consequences follow—*i.e.*, how much can be done in a given case by the method of counteraction?

First, as to the term itself. Some confusion exists as to the signification of the words antidotes and antagonists, the latter being the more modern word. Galen called all remedies given

\* Address delivered before the University Biological Association, Thursday, November 29, 1883.



internally antidotes, and an old writer speaks of a person who in his whole life never took an antidote (!). By some authors they are used synonymously, while stress is laid by others upon their differences. Without pressing the point, it is, I think, convenient to distinguish them.

By an antidote I mean a substance which, when brought into direct contact with another and harmful substance, converts it into a harmless compound—*contraria contrariis curantur*. The resulting compound may be soluble or insoluble—*e.g.*:—

(a). Sodium sulphate + acetate of lead = lead sulphate (insoluble).

(b). Sodium sulphate + carbolic acid = sodium sulphocarbonate (soluble).

The term antidote is by usage nearly confined to toxicology, although we make frequent use of the principle in daily practice.

By an antagonist I mean a substance which operates in a manner physiologically opposed to that of another substance, and annuls its action—*i.e.*, counteracts not the drug itself directly, but its effects. The word implies a struggle between two contrary forces.

TABLE I.—*Illustrating Antagonism.*

Physostigmin : Pilocarpin : Muscarin.	Atropin : Hyoscyamin.
Slow the heart.	Quicken heart's action.
Augment secretions.	Diminish secretion.
Cause myosis.	Cause mydriasis.

In the cat, for example, the salivary secretion caused by pilocarpin can be stopped by atropin, secretion can be again produced by pilocarpin, then stopped by atropin, and so on, with alternate secretion and stopping of the secretion, many times in an hour (Langley). These facts are quite opposed to Rossbach's view that the pilocarpin acts by stimulating the gland-cells which the first small dose of atropin left unaffected.

They may be thus contrasted:—

TABLE II.

Antidotes.	Antagonists.
Act chemically.	Act dynamically.
Action local.	Action general.
Neutralise the <i>cause</i> of the malady.	Act on the <i>morbid state</i> produced by the poison.
Sphere of action—gastro-intestinal tract, chiefly.	Sphere of action—intra-cellular.

TABLE III.—Including the more important Antagonistic Drugs.

Atropia and	{	Morphia.
		Muscarin.*
		Pilocarpin.*
		Bromal.
		Chloral.
		Hydrocyanic acid.
		Physostigmin.*
Chloral and	{	Chloroform.
		Strychnia.
		Calabar bean (?)
Picrotoxin v. chloral, but not v. v.		

The best determined examples are marked with an asterisk.

The two drugs of whose reputed antagonistic relations we hear most are opium and belladonna, and, so far back as the 16th century, opiates were employed by the Italians to counteract the effects of an overdose of belladonna. It was Græfe who first proposed, in cerebral affections with contraction of the pupil, to give belladonna, and v. v. At first it was thought that the opposition was absolute, and that consequently no anxiety need in future be felt as to the management of cases of poisoning by morphia or atropia; all that was necessary was to administer the suitable dose of the antagonistic poison, and *presto* the patient was saved.

But such a happy consummation is still to be attained, and the doctrine of antagonism between opium and belladonna, although widely accepted in England, is abandoned in France, and it is even maintained by some good observers that the two drugs operate in the main as intensifiers of each other's action, and by no means as opponents. This particular question we may leave *sub judice*, but I must express my conviction that many of the published cases of supposed antagonism of powerful drugs are inconclusive, and illustrate little more than how much poison the human frame can tolerate without death ensuing, or only serve to point the proverb, "*Exitus acta probat*"—all's well that ends well.

The difficulties and complexities of the problems were not recognised at first, and rash generalisations were made from particular facts—*e.g.*, that morphia contracted the pupil, and atropia dilated it.

But the question has been subjected by skilled observers to close

and repeated experimentation, and it may now be accepted as established that—

1. True antagonism, in the sense already defined, exists.
2. In certain cases the fatal action of one drug can be averted by the administration of another drug, antecedently, simultaneously, or even a short time subsequently (*e.g.*, atropia and calabar bean :<sup>a</sup> strychnia and chloral).
3. But the converse action does not follow as of course, and it is doubtful if in any case of two drugs with complex action a perfect reciprocal antagonism, qualitative and quantitative, subsists in all points.

In other words, as we might *à priori* have expected, there are limitations in this respect determined by such conditions as these, which vary infinitely—viz., their respective spheres of action and the degree of affinity for particular tissues, the diverse rates of absorption and elimination, and the different and even opposite effects to be obtained from small and large doses of the same drug.

In an interesting paper (*Pflüger's Arch.*, Bd. XV., p. 482, 1877) on the "Antagonistic Actions of Atropin and Pilocarpin on the Sweat-glands of the Foot of the Cat," Luchsinger concludes thus:—"A definite quantity of atropin can then undoubtedly annul the stimulating action of a definite quantity of pilocarpin, but, on the other hand, this so-called paralysing action of atropin is in its turn overcome by still larger quantities of the stimulating agent." Hence, "there exists between pilocarpin and atropin a true mutual antagonism, their actions summing themselves algebraically like wave crests and hollows, like plus and minus. The final result depends simply and solely upon the relative number of the molecules of the poisons present."

Against this view Rossbach (*Pflüger's Arch.*, Bd. XXI, p. 1) stoutly protests, and maintains that there is no such thing as a real double-sided antagonism between the actions of two poisons in the sense of  $+$  and  $-$ ; and he especially denies that the *paralysing* action of a poison influencing an organ can, under any circumstances, be removed by the counteraction of a stimulating drug. He will admit only one case where life can be saved by the agency of a physiological antagonist—namely, when life is threatened by the excessive stimulation of one or more organs after poisoning by a dose of a stimulating poison. In this event

<sup>a</sup> The fatal effect of three and a half times the minimal lethal dose of physostigma (calabar bean) may be prevented by atropia (Fraser).

death may be averted either (a) by the abnormal excitation of a vital organ being brought down to the normal by the depressing antagonist, or (b) by actual paralysis of the stimulated organ, on the supposition that life is possible during a temporary suspension of its functions.

But, Rossbach notwithstanding, it appears to me that the experiments of Heidenhain, Luchsinger, and Langley (*Journal of Phys.*, Vol. III., p. 11) are decisive, and establish beyond question the existence of a true mutual antagonism between certain poisons. It may be allowed that there is more hope of reducing an excessive stimulation down to the normal by a suitable antagonist than of performing the converse feat—viz., of levelling up a condition of paralysis or extreme depression. For example, chloral hydrate is more likely to save life after a fatal dose of strychnia than strychnia is to save life after a fatal dose of chloral hydrate (Report of the Edinburgh Committee on the Antagonism of Drugs, 1875).

It is probable that, *under certain limitations*, if any two substances act in opposite ways upon one tissue in the body, a large enough quantity of the one will overcome the effects of the other, and bring about the effects proper to itself when given alone, in great or small dose, as the case may be.

“A limit is placed to this antagonism by the impossibility of giving very large quantities of any substance without injuring the tissue by physical processes consequent on alteration in the density of the fluids. The antagonistic action of alkaloids can only occur within the limits of doses which do not seriously alter the tissue by altering the normal rate of diffusion, &c. If, for instance, a nearly maximal dose of atropin be given, no other alkaloid we are acquainted with can antagonise its action on the salivary glands, for the chemical affinity of atropin for the tissue is so great that it would require, to compensate for this, a mass of the other alkaloid impossible to be given without direct injury to the tissue” (Langley, *loc. cit.*).

The conditions which govern the mutual action of drugs upon organic tissues are probably closely related to those physico-chemical laws which rule over the simpler problems of inorganic chemistry—*e.g.*, relative mass, and chemical affinity, although it would be rash to push the analogy too far.

I have little doubt that great discoveries are in store as to the connexion between chemical *constitution* and physiological action, and an interesting contribution to this subject in its bearings upon

antagonism has recently been presented to the Royal Society by Drs. Lauder Brunton and Theodore Cash.

In another memoir Dr. Brunton has most ingeniously sought to explain the nature of inhibition—that perplexing problem in physiology—and the action of drugs upon it by the help of the phenomena of interference of vibrations, as observed in the waves of light and sound (*Nature*, March, 1883).

And now I must, in the last place, advert to the practical bearings of these investigations. Here we must be on our guard not to jump too hastily to rules of practice which may sound pretty in theory, but prove disastrous in execution. Even if we know a number of well-ascertained facts of physiological antagonism, it does not follow that it would always be wise to base our treatment upon these facts. The conditions and circumstances of human life and disease are very complex, and will not always fit in neatly with those observed in physiological inquiries. Sometimes the best treatment for the effects of a poison or of a disease is that which is good for a drunken fit—let the patient sleep it off.

Heat and cold are antagonistic agencies, yet we all know what care is requisite in restoring the nutrition of parts benumbed by cold. Boiling water will not cure a frost-bite.

In each individual case the points to be carefully considered are:—

1. Is there serious danger to life?
2. If so, what is the tendency to death—by coma, by the heart, &c.?
3. What is the best way of counteracting this lethal tendency—i.e., of prolonging life until the elimination of the poison is sufficiently accomplished?

For there is the risk of killing a patient in the attempt to cure him; and the Irishman was perhaps not without reason, who complained to his physician that he stuffed him so much with drugs that he was sick for a long time after he got well.

The little book by Dr. Murrell ("What to do in Cases of Poisoning," 3rd Edit.) offers a good example of the way in which physiological teaching is leavening materia medica, for almost every page bears witness to the applications of the doctrine of the antagonism of drugs to the emergencies of practice. As he truly remarks, all rational treatment of cases of poisoning is founded on a correct appreciation of the physiological action of drugs.

Did time permit, I would attempt to show how the study of the

physiological properties of drugs is likely to yield practical fruit in teaching us how to combine medicines rationally; i.e., to neutralise certain unpleasant or noxious qualities in one drug by deftly combining it with another, which does not interfere—nay, may even conspire with the desired action of the former. We may indulge in the anticipation of being able to so skilfully marshal our forces as to obtain the maximal good with the minimal evil, and will thus learn to understand the principles which underlie what have long been known in the art of prescribing as adjuvants and correctives.

After all, however, while allowing that the science of to-day is not that of to-morrow, our position in therapeutics is certainly still, and, in my belief, will always largely be, that of eclectic, empiric philosophers, ever learning, swift to hear, slow to speak, and cautious in judgment.

In conclusion, gentlemen, I am conscious that, owing to the limitations of time and of my own powers, I have dealt very imperfectly with this interesting subject; but if short addresses, like brief sermons, are generally the most acceptable, my first care must be not to tax your patience too heavily, lest I run the risk of evoking in your midst a spirit of antagonism as a practical comment on the address, for your attention to which I have to thank you.

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ART. IV.—*Medico-Statistical Sketch of a Draft of the 1st East Lancashire Regiment during their First Year's Residence in the Indian Hills, illustrating the Effect of these Climates on our Young Soldiers, &c.* By SURGEON-MAJOR ALBERT A. GORE, M.D.; Fellow of the Royal College of Surgeons, and Member of the King and Queen's College of Physicians in Ireland; in Medical Charge of the Female Hospital, Staff and Departments, Dublin.

ON the 5th November, 1881, 96 non-commissioned officers and men of the 1st East Lancashire (late 30th) Regiment landed at Bombay, were railed to Moradabad, where they arrived on the 15th, reaching Ranikleet—5,500–6,000 feet above sea-level, but with valleys as low as 3,200—on the 29th, having arrived in India at the healthiest period of the year, and marched from Moradabad through the Terai at the foot of the hills when the weather was cool and malaria dormant and innocuous.

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Under	20 years	-	-	0
Completed	20	"	-	12
"	21	"	-	28
"	22	"	-	21
"	23	"	-	10
"	24	"	-	6
"	25	"	-	7
"	26	"	-	6
"	27	"	-	2
28, 29, 36, and 38 years		-	-	4

Fifty-five of the whole number were from Lancashire; the remainder from other English counties chiefly—85 being English, 1 Irish, 1 Scotch, and 1 born in the East Indies.

Thirty-seven were labourers, 10 weavers, 7 spinners, 6 colliers, 3 moulders, and the rest made up of grooms, farriers, mechanics, bakers, clerks, joiners, tailors, masons, hawkers, cutlers, piecers, carters, boltmakers, painters, miners, gasfitters, plumbers, factory operative, foundry labourer, grinders, stokers, cellarman, blacksmiths, &c., previous to enlistment.

Up to the 5th November, 1882—30 were never under medical treatment; 30 were in hospital once; 20 were admitted twice; 9 three times; 4 four times; and 1 had seven admissions.

Of the 30 who remained healthy, the greater number had been in hospital at home and subsequent to enlistment for some affection; 17, or more than one-half of this number, had only completed 21 years of age; 9 others, 22 to 24 years; so that a large proportion of the young soldiers of this draft were healthier in the Indian hills than in England during their first year's residence—opposed altogether to experience in the plains; while 30 of the remainder were in hospital only once.

On the 5th November, 1882, exactly a year after arrival in India, there were in hospital the following cases:—Incipient phthisis, 1; sprained foot, 1; primary syphilis, 3; remittent fever, 1; gonorrhœa, 1; inflamed inguinal glands, 1; pneumonia, 1; secondary syphilis, 1; epilepsy, 1.

Ten days afterwards the regiment marched for the plains, leaving in hospital of this draft, 7 suffering from primary syphilis, 1 each from pneumonia, secondary syphilis, gonorrhœa, and remittent fever.

Two men succumbed to disease—one, Private B. H., aged twenty-five; service three and a half years (with a bad previous

history of intemperance and frequent imprisonment), from pneumonia—a few days after arriving in the colder and higher latitudes. He was of indifferent physique, with a sunken chest, and in marching up appears to have been chilled. He was suffering from inflammation of the lungs on arrival, and was at once admitted under treatment. The right lung was at first affected—the disease quickly extended to the left. The patient's face presented a blue appearance. He died on the 6th day. After death miliary tubercles were found in both lungs.

The other suffered from enteric fever—a young soldier who had exposed himself a good deal to the direct rays of the sun, without a helmet, in May, when the heat is often excessive, and mean temperature in the sun 136°.

The following table gives a better idea than any written description of the climatic peculiarities which may influence the health of lately arrived Europeans :—

	Mean Tem. in Sun	Mean Air Tem.	Daily range	Highest in Shade	Relative Humidity	Rainfall in inches	Rainy days
January - -	115	43	18	65	60	0·21	1
February - -	113	48	18	69	62	4·8	8
March - -	132	61	21	81	45	—	—
April - -	144	70	24	87	38	0·2	2
May - -	136	66	21	87	59	3·8	16
June - -	136	72	19	88	65	5·3	11
July - -	130	69	15	84	84	21·0	21
August - -	120	67	14	78	87	7·8	24
September -	130	66	15	79	82	10·0	15
October - -	131	61	20	78	63	·9	1
November -	119	55	22	72	60	—	—
December -	118	51	20	70	55	—	—

The prevailing winds are N.E., S.W., and W. The rainfall ranges from 45 to 65 inches; the mean air temperature is about 61°; mean solar radiation temperature, 127°; mean daily range, 19°; mean relative humidity, 63 per cent.

The coldest months are December, January, and February—



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very similar to our home winter. March and April similar to our spring months, except that storms of hail and sleet are more frequent of occurrence, and snow generally falls—the fall being exceptionally heavy every third winter. White clothing is worn in May and June. The rains set in regularly in July, and continue to the end of September. In the intervals of rainfall the sun is bright and warm. October and November are charming months; but the winter is dull, cold, and dreary, and little relished by soldier or civilian.

The water springing from the mountain fissures is sparkling, pure, and agreeable to the taste—in the stations showing only 3° of total hardness; 7.72 grains of total solids to the gallon; of lime calculated as carbonate, 2.88, yielding a faint trace of chloride and organic matter.

The diseases which this small and select body of men suffered from are enumerated below:—Primary syphilis, 20; gonorrhœa, 15; secondary syphilis, 3; diarrhœa, 13; dysentery, 3; ague, 5; remittent fever, 5; febricula, 2; simple continued fever, 2; enteric fever, 1; sore throat, 5; bronchitis, 3; pneumonia, 2; phthisis pulmonalis, 1; jaundice, 1; sunstroke, 1; goitre, 1; measles, 1; muscular rheumatism, 4; dyspepsia, 4; gumboil, 5; eczema, 2; blisters of feet, 3; urticaria, 2; balanitis, 2; sprain, 5; boils, 2; wounds, 3; inflamed inguinal glands, 2; orchitis, 2; inflamed sub-maxillary glands, 1; fracture of fibula, 1; abscess of cellular tissues, 1; tonsillitis, 1; ulcer, 1; inflamed external meatus, 1; hæmorrhoids, 1; scabies, 1; general debility, 1; warts of penis, 1—total, 130.

Venereal affections accounted for nearly a third of the whole. Four of the cases of primary syphilis had been contracted on the march through the hills, and detected at the medical inspection on arrival. The march itself had been uneventful, a single case each of bronchitis, mild simple continued fever, abscess of cellular tissue, inflammation of the external meatus, and inflammation of the submaxillary glands, having come under treatment.

In large or small bodies of men some are peculiarly susceptible of disease. Private J. H. L., aged twenty-two, only twelve months in the ranks, had in succession primary syphilis, secondary syphilis, primary syphilis again, warts of penis, remittent fever, diarrhœa, and dysentery. Another private, W. E., aged twenty, two years' service, had dysentery, remittent fever, primary syphilis, diarrhœa, and primary syphilis; while a third had a wound,

dyspepsia, diarrhoea twice, a wound again, and ague; while thirty were never under treatment.

Patients suffering from syphilis and gonorrhoea spent 1,395 days in hospital, an average of 38·5 days to each—one patient was 92, a second 120, a third 130, a fourth 131 days for these affections, very common in the Indian hills, among the Cossiahs, or hill women, who pay little attention to the disease. They suffer principally from primary venereal sore, *plus* dirt and neglect, and often present to the examiner one mass of ulcerated vulvæ, while among the registered prostitutes (who are inspected weekly) it is of infrequent occurrence. The latter suffer chiefly from gonorrhoea, leucorrhoea, and granular degenerations of the os and cervix uteri. Small ulcers of the tongue and mucous membrane of the mouth and inside of the lips were very commonly observed amongst the men. Secondaries take also longer to treat in these hills than in the plains. During four years' experience in the charge of Lock hospitals in the plains and hills very few cases indeed of secondary syphilis amongst the registered women were observed, while bubo was still more uncommon. Indurated sores were of rare occurrence, and when noticed readily yielded to a mild mercurial course. Some severe cases of menorrhagia were treated. Very few became pregnant. Venereal sores in this class were mostly confined to the labia majora, margins of the nymphæ, or orifice of the vagina; as a rule, simple chancres yielding to local treatment, rest in bed, and cleanliness. Many of these women are infected by soldiers who contract venereal disease from unlicensed prostitutes. I have known one of the latter class (who on examination was horribly diseased) give primary syphilis to fourteen men in succession. In the plains they are mostly women of the lowest castes, and the dirtiest. This small body of young soldiers presented some cases of professional interest.

CASE I.—*Enteric Fever*.—No. 2,013, Private J. G., aged twenty-three; service, three years and eight months; a miner by trade. From the date of his arrival in the hills, 10th December, there had been no cases of typhoid, or for some months before. For a fortnight previous to admission the weather had been exceptionally cool, but rather suddenly the temperature rose to 84° to 90° in the shade, 130° to 140° in the sun. There were evening thunderstorms, and some heavy rain at intervals—the advent of the monsoon. It was very hot at 7 a.m. at the morning parades, the ground on which they were held being enclosed, and not open to the breeze; the recruits' drill, from 10 to 11 a.m., had to be put

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a stop to in consequence. He belonged to C company, to which eight others of his batch were attached, all occupying a well-situated and elevated bungalow, on an isolated hill. The whole party partook of the same food, milk, water, bazaar supplies, and underwent the same drills and parades. All the other recruits of his batch remained healthy, but this lad had a constant habit of exposing himself to the sun without his helmet, and had been frequently checked for doing so. He was fond of violent exercise, "putting the stone," too early in the afternoon, and before the sun's rays had moderated sufficiently. After one of these occasions he felt very unwell, and lay all day in bed, complaining of fever and headache. This was on 17th May. On 19th he came to hospital with diarrhœa, pain referred to the back of the head, and fever; was detained, and admitted on 20th. The epigastrium was very tender, the least pressure causing pain. He had taken large draughts of water from the filter. Evening temperature,  $104^{\circ}$ . Passed a dark-coloured stool; three on 21st, and three on 22nd. There was great lassitude, with tumid but soft abdomen; distinct gurgling on making firm pressure over right iliac fossa; pulse, 75 to 80; tongue coated at base with a whitish yellow fur, edges and tip moist but red; could not sleep; milk rejected by stomach, except when mixed with lime-water. Ordered diaphoretic mixture, with small and frequent doses of tincture of aconite; morning of 22nd a cold bath, followed by 20 grains of quinine. Temperature fell from  $105.4^{\circ}$  to  $100.8^{\circ}$ , but rose in an hour and a half to  $104^{\circ}$ . A second bath reduced it only to  $103^{\circ}$ .

23rd.—Tongue moist and fairly clean. An enema brought away a dark tarry stool. Bled freely from the nose at noon and at 5 30 p.m. Bath, followed by quinine, reduced the temperature from  $104^{\circ}$  to  $102^{\circ}$ , but in an hour and a half it again rose to  $104^{\circ}$ . Body frequently sponged with cold vinegar and water; head shaved and cold evaporating lotion applied, from which he felt relief. Pulse had risen to 96. Later on in evening had another attack of "nose-bleed," and vomited.

24th.—Morning temperature,  $103.4^{\circ}$ ; after bath,  $100.4^{\circ}$ ; rose in two hours to  $101.8^{\circ}$ . Pulse, 88; a dark stool, cleaner tongue, less tender abdomen.

25th.—Morning temperature,  $103^{\circ}$ ; evening,  $104^{\circ}$ ; bath and quinine reduced to  $102^{\circ}$ . A faint rose spot on back; intellect confused; belly soft, but more rounded, tender over both iliac fossæ; heart sounds weak, but distinct; skin hot; no bronchial symptoms; urine of a very deep colour, passing freely; bowels inclined to be constipated. *Vespere*.—A rose spot on abdomen; passed half a pint of dark fluid blood in bed-pan. Ordered 3ss. doses of turpentine, cold drinks, and perfect quiet.

26th.—Morning temperature,  $103.4^{\circ}$ ; evening temperature,  $104.4^{\circ}$ ; five stools during night; draw sheets stained with blood; tongue dry; three very characteristic rose spots on abdomen; slight delirium last

night; bath reduced temperature from  $104.4^{\circ}$  to  $100.6^{\circ}$ . *Vespere*.—Hands tremulous; stools passing involuntarily; pulse only 84, feeble, jerking; delirious all day, but protrudes tongue when spoken to; ten stools in twenty-four hours.

27th.—Morning temperature,  $103.8^{\circ}$ ; evening temperature,  $104.4^{\circ}$ ; tongue softer; had a quieter night; five liquid stools tinged with blood; pulse, 100; two fresh rose spots on abdomen; others disappeared. Temperature fell after bath to  $101.6^{\circ}$ , but rose quickly to  $104.4^{\circ}$ . Taking port wine and jugged beef soup, &c.

28th.—Passed a restless night; delirious; bowels moved sixteen times in twenty-four hours; tongue dry and hard; pulse over 108; morning temperature,  $104^{\circ}$ ; evening temperature,  $105.4^{\circ}$ ; passed half a pint of dark fluid blood; countenance pale; body cooled by frequent sponging; ordered gallic acid and ergot to check the hæmorrhage; blister to nape of neck. *Vespere*.—Low, muttering delirium during day, but roused when spoken to; pulse, 120; hæmorrhage arrested, packed with a wet sheet; tongue coated, but soft.

29th.—Delirium increased during night; tried to get out of window; eleven stools in twenty-four hours; morning temperature,  $104^{\circ}$ ; pulse, 120; evening temperature,  $105^{\circ}$ ; pulse, 130; heart-sounds weak and indistinct; breathing cerebral, puffy; tries to protrude his tongue when roused; decubitus on back; circular blister to vertex; brandy increased to 8 oz. *Vespere*.—Pulse weaker; tongue dry and covered with sordes; face pale; lungs becoming quickly engorged; skin very hot; temperature,  $105^{\circ}$ . Mustard and linseed jacket poultices.

30th.—Died at 6 45 a.m. Previous twenty-four hours bowels moved eleven times, stained with blood.

*Post-mortem* appearances ten hours after death:—Body well nourished. Superficial vessels and brain substance congested, lateral sinuses distended with blood. Pericardium contained two ounces of serum. Lungs engorged and loaded with bloody serum. Spleen ten ounces, congested, of a dark chocolate colour on section. Much bloody serum exuded from the liver on section. Kidneys not congested. Pancreas three ounces, healthy. Cardiac extremity of stomach deeply congested and marbled. Duodenum healthy. About a foot of mucous membrane of jejunum deeply congested. Upper third of ileum pale, healthy; as lower third was approached two patches of pigment was observed, next an infarcted patch raised above the mucous membrane; six inches below an enlarged Peyer's patch, hyperæmic and swollen, surrounding mucous membrane, reddened; six inches further another congested patch, another two inches below tending to ulcerate; ten inches beyond gut much congested; one of Peyer's glands here raised and ulcerated, ulcer penetrating to peritoneum and nearly perforating; three inches below another small ulcer; gut in this situation much congested. A foot above ileo-

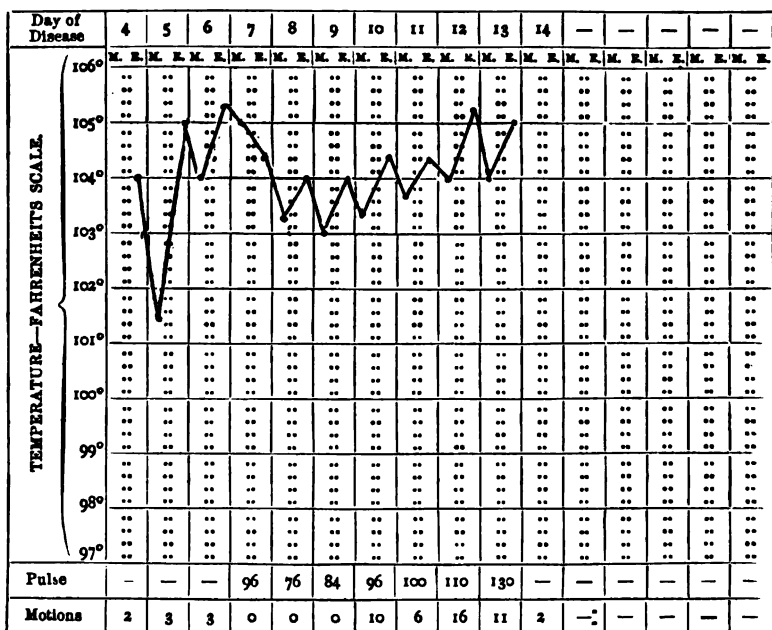
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cæcal valve five circular ulcers with raised and thickened edges. Just above junction with cæcum whole of glands tumefied. A foot of sigmoid flexure of colon congested. No ulcers. Some patches of congestion in rectum. Some of the mesenteric glands were hyperæmic, enlarged, and softer than usual. Bowels contained a light yellow fæcal fluid, and were somewhat distended with flatus. No entozoa.

## CHART OF TEMPERATURE.

*Name, Private J. G. ; Age, 23 ; Disease, Enteric Fever ; Result, Death.*

*Died at 6.45 a.m. 30th May, 1883 ; admitted 20th May.*



**NOTE.**—Followed quickly upon violent exercise in the direct rays of the sun on 17th May. A young soldier only recently arrived in the hills.

Here, then, was a very typical case of severe typhoid commencing with lassitude and evening temperature on third or fourth day of 104°, having in succession diarrhœa, gurgling, headache, tumid abdomen, rose spots, nose bleeding, hæmorrhage from bowels, delirium, engorgement of the lungs, and showing after death congestion and ulceration of Peyer's patches at lower end of ileum with enlargement of spleen. The long interval since arrival from the plains (more than five months) precluded all idea of importation. There was no history of contagion, the last admission for

enteric fever having occurred on the 7th of the previous October. The water, distributed to the filters from a good source of supply, was common to the rest of his company, the dry earth latrine clean and used by them also. The milk (of which only a little was used in the morning and evening tea) and the bazaar gingerade (made by beating whole ginger in filtered water) was equally used by all, so that there only remained in this particular case youth and recent arrival as a predisposing cause, and violent exercise and direct exposure to the sun as the exciting cause of the disease. Any other was not traceable after a painstaking personal inquiry.

The case appeared to be one peculiarly suited to an antipyretic mode of treatment, which, however, failed to arrest the course of the disease, the intensity of which was shown by the little permanent effect produced by the cold bath. The early hæmorrhage of a melænic character may have been connected with the deeply congested and at the time very painful stomach as indicated by the intense epigastric tenderness.

Five of the draft suffered from ague—a disease prevalent in the valleys, or contracted from the malaria wafted up the ravines from the lowlands and terai at the foot of these hills. All the cases but one occurred in August and September, the wettest months.

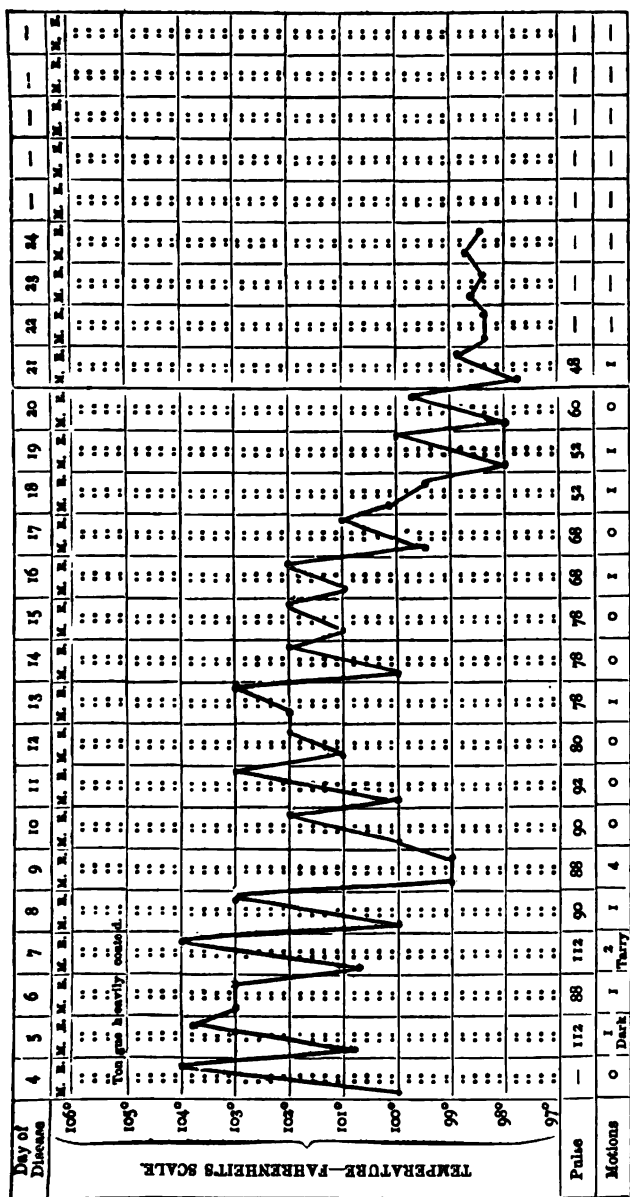
Five well-marked cases of hill remittent fever were treated—average stay in hospital thirty-nine days to each. This affection in Kumaon is ordinarily a twenty-one day fever accompanied by malaise, tongue coated with a thin white fur, hot dry skin, constipated bowels, temperature continuo-remittent; pulse, 80 to 90, or more; appetite unimpaired; sometimes headache; occasionally diarrhoea. In some cases a marked tendency to rapid congestion of internal organs, especially the lungs, spleen, or liver; effusions of blood into cellular tissue; tendency to wear itself out, and little influenced by quinine or antipyretics. Sequelæ, rheumatic pains. In some a marked anæmia; occasionally purpuric spots, bed-sores, gangrenous ulcers of mouth, dysenteric diarrhoea; sometimes again hanging on for months owing to frequent relapses. Such cases are accompanied with very irregular temperatures or marked daily remissions; more severe in the higher and colder stations, probably owing to the more marked vicissitudes of temperature. Some of the cases simulate very closely enteric fever, spots having been noticed with enteritic symptoms, delirium, &c. In others the only indication of the fever was the thermometer,

lassitude and thinly-coated tongue (ambulatory form). A single relapse not uncommon. Many cases are treated and abort or subside on the fourteenth day. Kidney, as a rule, unaffected. After death congestions of various organs, and especially of the lower end of the ileum, perhaps of the colon, *but no ulceration of Peyer's patches or enlargement of mesenteric glands.*

In one, very marked symptoms followed upon a shooting excursion to the Terai jungle in September (two or three others of the party of four suffered from ague). In the second he attributed his fever to exposure to sun, rain, and wettings as orderly corporal. Another got wet through putting up the targets on a very hot day. The fourth followed upon a rather severe attack of dysentery contracted on the march to Ranikhet. The last (a delicate lad) attributed the attack to the fact of his having left the door open opposite to where he slept, and through which damp, cold, night air entered an old wooden hut on a bad site, and from which some other cases of remittent fever had been under treatment. It will be noticed that in four the exciting cause was climatic, and that the other was a very common sequela of dysentery.

The three patients who suffered from dysentery (which I have seen arise from very slight causes in these hills, such as a chill while under treatment in hospital, in others from the use of impure surface water) were young soldiers admitted in May, June, and December—origin, vicissitudes of climate, not complicated by malaria or scurvy—all recovered: two in ten days and one in eighteen, under the ipecacuanha treatment pure and simple. The symptoms were slight fever (temperature not rising above 100° or 101°), coated tongue, tenesmus, more or less pain along course of colon, stools of mucus and blood. The patient, having been interdicted fluid for some hours while lying on the back in bed, with the head low, was given 20 minims of tincture of opium and 10 grains of carbonate of soda in a little water. A sinapism was applied over the epigastrium, and in twenty minutes 20 grains of ipecacuanha in 4 pills were administered. For three hours the patient was not allowed to move from this position. The dose was very often retained; if rejected, immediately repeated. This treatment was continued until the stools became fæculent, when smaller doses of ipecacuanha were continued, with 20 minims of chlorodyne at night, milk diet, and during convalescence citrate of iron and quinine. It is very important to lie quite still for at least three hours, as the least movement to either side

CHART OF TEMPERATURE, &c.  
*Name, Private J. H. L.; Age, 25; Disease, Malarial Remittent Fever; Result, Recovery.*  
 Admitted 10th October, discharged 22nd November.



NOTE.—Left Ranikhet to shoot in Terai jungle; returned 25th September; present symptoms noticed first, 6th October. Had regular paroxysm of ague on 9th—cold, hot, and sweating stage. One of party of four. Two others had marked intermittent fever. Treatment—Diaphoretics, quinine, purgatives, &c.



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will often cause the medicine to be rejected. If the dysenteric symptoms in these cases had been associated with typhoid, the temperature would have been higher, and ipecacuanha useless. Nor would the later remedy have had any very permanent remedial effect in advanced scorbutic or malarial cases.

The following cases illustrate very fairly the ordinary symptoms and mode of treatment in young soldiers:—

CASE II.—No. 2,413, Private T. C., of last draft, aged twenty-two, was discharged from hospital on 22nd July, 1882, after fifteen days' treatment for diarrhœa. Re-admitted with well-marked symptoms of acute dysentery—viz., pain in abdomen, frequent calls to stool, with passage of almost pure blood, straining.

29th.—20 grains bolus of ipecacuanha was retained, and followed by a full dose of chlorodyne at night.

30th.—Temperature, 99°; last evening, 100·8°. Pulse, 64; skin cool; tongue coated with a brownish-white fur. Passed a large stool consisting of frothy mucus, blood, and faecal matter. Twenty minims chlorodyne at once; 20 grains ipecacuanha to be repeated at noon; milk diet.

31st.—Stool as yesterday. Ipecacuanha rejected; had two full doses of chlorodyne. Temperature last evening, 100·8°; this morning, 99°; tongue cleaner. 10 grains bismuth and 5 grains Dover's powder; 20 grains of ipecacuanha to be repeated at noon, and if rejected, given by enema.

August 1st.—Temperature last evening, 100·8°; this morning, 98·8°; tongue cleaning. Retained the ipecacuanha; had two full doses of chlorodyne in addition. Very little blood in stools, which to-day are yellow, frothy, and faecal. Continue treatment.

2nd.—Stools more formed; tongue coated towards base with a light yellow fur; uneasiness felt along course of colon, which is somewhat tender upon pressure. Temperature last evening, 99·6°; this morning, 99°.

3rd.—Ipecacuanha reduced to 10 grains; no blood in stools; tongue still coated. Temperature last evening, 99°; pulse this morning normal. To have bismuth and Dover's powder in the evening; later a dose of chlorodyne.

4th.—A frothy, bilious stool; tongue much cleaner. Temperature last evening, 99°; this morning normal. To have 5 grains of ipecacuanha and Dover's powder in pill three times a day.

5th.—Temperature last evening, 99°; this morning normal. Stool more formed, light-coloured; no blood or slime. Tongue quite clean.

8th.—Convalescent.

More than half the admissions for diarrhœa occurred when the rains had set in in July. The climate was damp and wet, occa-

sionally warm and muggy, and the surface waters not very pure, especially at the onset of the rains. Half the cases were confined to soldiers of twenty-one years of age. Average duration of treatment, 12 days; shortest, 3; longest, 19 days in hospital. Dilute sulphuric acid and opium were chiefly given. Some of the patients suffered from what is called "hill diarrhœa" (*diarrhœa alba*)—an endemic complaint, and especially prevalent at Ranikleet during the monsoon. In the early stages, with rest and warmth in bed, a steady perseverance in a milk and rice diet, it is readily amenable to treatment, but very liable to relapse from worry, chills, or imprudence in diet. Dyspeptic symptoms, followed by white, frothy stools, four or five to twenty, strong fœcal odour, flatulence, and a sense of immediate relief, great thirst, depraved appetite, slightly furred or clean tongue, and after a time impaired appetite and debility, were noticed in such cases. Sometimes symptoms of hepatic congestion preceded the diarrhœa. Lactopepsine, where there was much pain—prepared chalk and opium, with spirit of chloroform and tincture of catechu, or a mixture of dilute sulphuric acid, compound tincture of camphor, spirit of chloroform in infusion of cinnamon—gave relief. Brandy or whisky and soda or Tarazona wine were the best alcoholic beverages. If there was a scorbutic taint, Gillon's prepared lime-juice. When the disease persisted, there was considerable loss of flesh, disinclination for exertion, and pain in the lower part of the spine and the loins. A short change or ride through the district checked the symptoms, but they were liable to recur on returning to the station, but usually completely disappeared on again visiting the plains. It generally subsided also during the colder months when suitable clothing was worn. When there was great loss of nervous influence and want of tone in the intestines from the frequent discharges, *nux vomica* in quarter or half-grain doses proved of service.

One of the younger soldiers suffered from jaundice in May, which disappeared in eighteen days. He was given the white mixture (Budd's formula—Epsom salts, carbonate of magnesia, and aromatic spirits of ammonia). The pulse was only 40 beats to the minute; the disease non-febrile, as nearly all these cases in the hills were. In the previous year the more matured soldiers of the battalion suffered a good deal from this affection during the rains. *Ætiology obscure.*

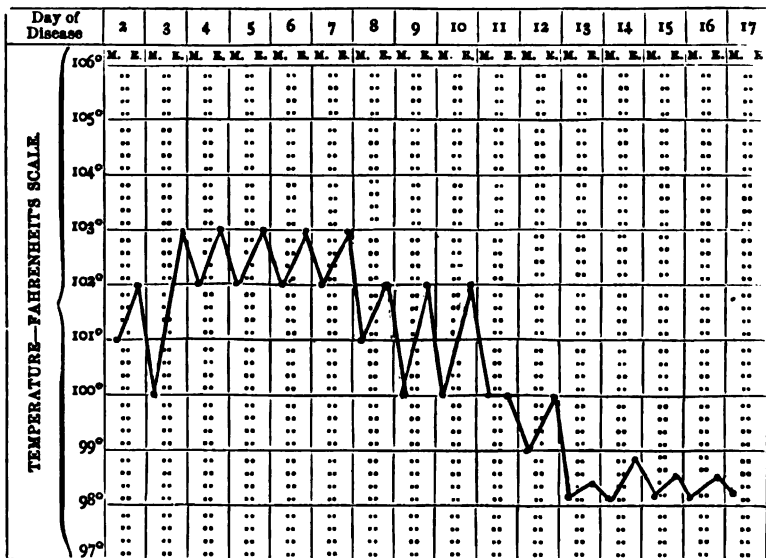
Of the two admissions for pneumonia one terminated fatally, as already noticed, shortly after arrival. The other was admitted on

## 52 *Effect of Climate on Young Soldiers in the Indian Hills.*

26th September for secondary syphilis following a primary one of 10th May. While taking bichloride of mercury and when convalescent, he imprudently remained in the garden after sundown; was chilled; suffered from intense and persistent headache, great oppression and restlessness, sleeplessness, excited circulation; pulse, 100; coated tongue. 27th—Evening temperature, 102°; physical and stethoscopical signs of commencing pneumonia over bases of both lungs, posteriorly and inferiorly. 28th—Evening temperature, 103°. 29th—Spat up a few small blood-clots. 30th—Sputum very distinctly pneumonic, adhesive, rusty, with some dark clots. From the 28th September to 2nd October the temperature oscillated between 102° and 103°. The crisis took place on 3rd October, when he felt better; pain in head had disappeared, and the slight delirium at night, but a large quantity of clotted and rusty sputa had been expectorated. 4th—Pulse, 80; respiration, 24; morning temperature, 100°. The lungs gradually cleared, and the patient was convalescent on 10th, when the morning and evening temperatures were normal. He was treated with expect-

### CHART OF TEMPERATURE.

*Name, Private H. G.; Age, 25; Disease, Pneumonia; Result, Recovery.*



NOTE.—Chilled on 26th September while going through a mild mercurial course for secondary syphilis. Recovered. A subsequent chill gave rise to symptoms of acute dysentery. Recovered.

torants, diaphoretics, linseed poultices, hot and frequently changed, and to relieve the intense headache and sleeplessness I ordered an evening draught of chloral, bromide of potassium, and liquor morphinæ. By the 14th only a few stains of the former syphilitic eruption remained. On the 20th, while quite convalescent, he again incautiously exposed himself by going at 4 a.m. from a warm bed to the close stool in the verandah. The mornings were then very cold. Symptoms of acute dysentery supervened at 2 p.m. During the day was eight times to stool, straining, and passing blood and slime. He was treated at once with large doses of ipecacuanha. Next day the stools were six; third, two; fourth, one; after which he quickly convalesced; was discharged from hospital, and marched with the first division of his regiment to the plains in the middle of November. The case is interesting, with its history of chill while under a mild mercurial course for secondary syphilis causing acute pneumonia; scarcely well of this affection, another chill causing acute dysentery. Recovery.

*Goitre*.—A single admission, 19th August, 260 days after arrival; discharged cured in 19 days after treatment by the local application of the red oxide of mercury in the sun.

On 27th May a young soldier of the draft, twenty years of age, was brought to hospital off parade with symptoms of sunstroke. He quickly recovered under the cold douche, diffusible stimulants, and quinine, and was discharged on the 30th. Some severe cases of sunstroke have occurred in the Indian hills from undue exposure without proper protection to the head and back, under the mistaken notion that in certain seasons in these elevated regions these might be dispensed with.

We had one admission for measles in the person of Corporal D., aged thirty-five, 15th February. He was discharged in ten days. This affection is usually imported by families arriving from the plains, but it is also common amongst the natives of the Kumaon hills. On one occasion I found two cases in the very centre of the cantonment which had been unsuspected for some days, not having been reported.

**CASE III.**—Private J. W., aged twenty-two, a labourer previous to enlistment—over two years' service, and who before arrival in India had suffered from primary syphilis, inflammation of glands, sore throat, and gonorrhœa; chest measurement, 35½ inches—was admitted on the 11th of April for incipient phthisis. Subsequent to admission he had slight hæmoptysis; appetite fair. The disease was confined to the right apex,

over which there was dulness under percussion, coarse and clogged-wheel respiration, and increased vocal resonance, &c. Under the administration of cod-liver oil, chiretta and acid, citrate of iron and quinine, use of carbolic inhalations, chicken diet and extra milk, he improved so much as to be able to leave for the plains in November—the winter months in the hills being unsuitable for chest affections, and there being a chance of the symptoms remaining quiescent.

Sprains and accidents were rather more common in the hills, owing to the greater unevenness of the ground. In the individual who broke his fibula, the fracture was high up in the upper third—an unusual situation except in cases due to direct violence.

The other cases which came under treatment presented no features of unusual interest.

The foregoing sketch shows that young soldiers brought direct from England under the most favourable circumstances, as to the mode of travel and season, to the inner Kumaon hills, will not be exempt from attacks of the more commonly observed tropical diseases, but, as a rule, in a mild form and amenable to treatment—in other words, they become seasoned to climate and initiated into the ways and manners of Indian life with less risk to themselves than if left in the plains. As with all newly-arrived and young soldiers the percentage of admissions was high, but the mortality was exceedingly low, and the loss from invaliding nil. The two patients who died would probably have not contracted the disease which led to the fatal termination had they exercised ordinary prudence on the march and in quarters.

ART. V.—*Case of Pulsating Liver.*<sup>a</sup> By WALTER G. SMITH, M.D., Dubl.; King's Professor of Materia Medica, School of Physic, T.C.D.; Physician to Sir Patrick Dun's Hospital.

TRUE pulsation of the liver is sufficiently rare, and, I think, little known to justify my reporting the only case of it which I remember to have seen in hospital practice.

CASE.<sup>b</sup>—J. M., aged thirty-five years, admitted into the Adelaide Hospital, August, 1878. He was a soldier, and had had ague, but with this exception was strong and healthy until 1875—i.e., three years prior

<sup>a</sup> Read in the Medical Section of the Academy of Medicine in Ireland, Dec. 14, 1883. [For the discussion on this paper see page 87.]

<sup>b</sup> From Notes taken by Dr. Wallace Beatty, resident pupil in the Adelaide Hospital, 1878.

to admission, when he caught cold, and was attacked with cough and breathlessness. Since that time he was never quite free from cough, and contracted several severe colds, the last one of which was followed by swelling of the legs. He was obliged to give up, and after a while was confined to bed. Without being a very hard drinker he was accustomed to take stimulants freely.

*State upon admission.*—Anasarca of the legs only; the swelling had never gone higher than the thighs. Loud bronchial râles over both lungs, with muco-crepitus, and attended with frothy expectoration. A faint systolic murmur heard over apex of the heart. The skin of the face and hands was dusky in colour, and there was visible pulsation in the jugular veins, which were of immense size—in short, there was extreme venous congestion of the upper half of the body.

The urine contained a large amount of albumen; no tube-casts were seen. He complained of a distressing feeling of load about the epigastric region, for the relief of which leeches were applied with benefit. The liver-dulness extended about two and a half inches below the ribs on the right side, and to within two inches of the umbilicus in the middle line, and its margin was readily felt. A distinct pulsation of the liver was visible in the epigastrium, extending over the right and left lobe. Dr. Beatty and I directed particular attention to this movement which arrested my notice, and we convinced ourselves that it was a true excentric throbbing of the liver, to be seen and felt, and not a mere shock, such as might be transmitted from the heart or inferior vena cava.

Subsequently the liver increased in size, and the lungs became engorged, while at times a triple cantering sound was heard over the apex of the heart, and the systolic murmur became more distinct. The area of cardiac dulness appeared to be enlarged, and the apex beat was visible in the sixth intercostal space. His condition fluctuated between better and worse, and he left hospital after a stay of nearly two months. I learned afterwards that he was soon re-admitted in a similar or worse plight, under one of my colleagues, and that he died rather suddenly. There is no record of a *post-mortem* examination having been made.

All hospital physicians have frequent opportunities of observing cases of heart disease, attended with enlargement of the liver, cervical venous pulse, and other evidences pointing to tricuspid regurgitation; yet, although on the watch for such an occurrence for some years past, I cannot call to mind a single other case in which I satisfied myself that there was regurgitant throbbing of the liver. Nor have some of my friends, of large experience, to whom I have addressed inquiries, been more fortunate, and, indeed, the phenomenon is sufficiently remarkable to be unlikely to be overlooked.

Dr. David Drummond, however, who has written an interesting paper on Pulsating Liver (*Dubl. Journ. Med. Sci.*, Oct. and Nov., 1881), believes that pulsating liver is of frequent occurrence, and is often overlooked by the physician. He gives details of nine cardiac cases in which this sign was present as a forcible and general movement of the liver.

Dr. Frederick Taylor has also written a paper deserving of perusal in *Guy's Hospital Reports*, 1875, based upon five cases of cardiac disease, in which hepatic pulsation was present. And in the *British Medical Journal*, March 18th, 1876, among the hospital reports, there is a brief reference to two cases under Dr. Ramskill's care in the London Hospital, in which diffused hepatic pulsation was observed. Both patients had cardiac disease and large nutmeg livers, as the *post-mortem* examination showed. In support of the proposition that the phenomenon under review is principally the result of a retrograde venous wave from the right ventricle (Friedreich, Taylor, Drummond), I may mention:—

1. The expansile sensation communicated to the fingers when placed upon the liver.

2. The duration of the pulsation. It continues after the ventricles have ceased to contract.

3. It has been observed that as the condition of the patient improved under treatment the hepatic pulsation became less and less (Drummond, Case II., *loc. cit.*). If the hepatic pulsation were due altogether to direct shock, the contrary would be the case, for steadier and more forcible action of the heart would materially increase the pulsation.

The question acquires practical importance, from its bearing upon the problem of diagnosis of tricuspid insufficiency, not always an easy matter for the physician to decide, and upon which authorities give out a somewhat uncertain sound.

Ought pulsation of the liver to be regarded as evidence of regurgitation through the tricuspid orifice? Taylor and Friedreich answer yes; and the latter goes further and states that, in point of time, hepatic pulsation precedes pulsation in the jugular veins.

Dr. Drummond maintains that pulsation of the liver is the most constant and most valuable sign of tricuspid regurgitation, less variable than systolic tricuspid murmur and jugular pulsation; but he does not contend that hepatic pulsation is pathognomonic of tricuspid regurgitation, and records himself a case *contra*. This matter appears to me to be deserving of more extended clinical

testing than it has yet received, and I shall be gratified if my paper have the effect of directing the attention of others to this point.

The questions still remain to be answered—How does regurgitation of blood into the hepatic veins in sufficient force to visibly agitate the liver sometimes occur? and why is it not more frequently observed in old-standing cases of mitral disease?

Neither Dr. Taylor nor Dr. Drummond make any reference to the peculiarities in the circulation of the liver in explanation of hepatic pulsation, nor is the topic alluded to in the standard textbooks of medicine.

Many years ago some ingenious and suggestive views were published upon the circulation of the blood through the liver, which were novel at the time, and which have since been corroborated by additional physiological and clinical evidence. Three authors, independently of each other, arrived at similar conclusions as to the conditions of the circulation through the liver—viz., M. Berard, Professor of Physiology in the Ecole de Médecine in Paris, in a paper published in the *Archives Générales de Médecine*, Juin, 1830; Dr. Carson, in his work, "Inquiry on the Circulation," Second Edition, 1833; and Mr. Alexander Shaw, Assistant Surgeon to the Middlesex Hospital, "On some Peculiarities in the Circulation of the Liver" (read before the British Association, June 24th, 1842, and published in the *London Medical Gazette*, July 15th, 1842).

A good abstract of Mr. Shaw's paper is given in a leader on "The Explanation of Pulsating Liver," *Med. Times and Gazette*, April 15th, 1876. Mr. Shaw set himself to show that the current of blood in the liver is subject to the influence of the respiratory movements of the thorax, and that the general effect of these actions is to assist its flow from the liver to the heart.

The vena portæ, a valveless and weak-walled vessel, has to perform the duties of an artery without possessing, like the arteries, an elasticity to aid it in propelling the blood, and without its fluid contents receiving much benefit in the way of direct impulse from the heart; consequently, when we consider the feebleness with which the blood must be sent through the gland by the portal vessels, and how its parenchyma must be exposed to the effects of congestion, it is natural to expect that some additional force should be brought into operation to accelerate the current. This auxiliary force is to be found in the actions of respiration, and the anatomical conditions which favour this influence are these:—



1. The trunks of the hepatic veins almost pierce the tendon of the diaphragm, to join the inferior vena cava.

2. The hepatic veins cannot collapse when subjected to atmospheric pressure—*i.e.*, to the aspiratory action of the mediastinum or suction power of the heart, because they are tunnelled out through the solid substance of the liver, and approximate in fact to rigid tubes. Hence the reason why, unlike the branches of the vena portæ, they are not surrounded by a bed of loose areolar tissue.

3. During respiration, by the contraction and descent of the diaphragm, the caval orifice of the diaphragm is stretched, the vena cava itself straightened, and the course and openings of the hepatic veins made more direct.

Conversely during expiration the venous trunks between the liver and the heart are shortened, their coats relaxed, and the opening in the diaphragm is diminished. Thus, at the very time when the thoracic cavity is lessening and the blood has a tendency to regurgitate into the hepatic veins, this tendency is counteracted by the provisions just described.

Accordingly, and because inspiration is a more powerful act than expiration, it follows that the circulation of the liver gains by the influence of the atmospheric pressure.

But if under any circumstances regurgitation of blood from the right heart takes place, it will be seen that this intimate relation of the hepatic veins to the liver-tissue, whereby they cease to be flaccid tubes and are converted into patulous sinuses, is a condition especially favourable for communicating to the liver as a whole any pulsation caused by reflux into the inferior cava and large hepatic veins. The degree to which the liver can yield is regulated by the elasticity of the enveloping capsule of the liver and of its peritoneal covering. Hence inflammatory thickening of the capsule is an obstacle to pulsation. Were it not for this elasticity of its envelopes the proper structure of the liver would, in cases of undue accumulation of blood within it, be injuriously compressed between the blood in the distended hepatic canals and the capsule of the liver.

Before hepatic pulsation can occur the impulse must be strong enough to overcome not only atmospheric pressure, but also the resistance of the parenchyma of the liver, the elasticity of its capsule, and all those conditions which have been already mentioned as tending to prevent regurgitation during ordinary expiration.

It is possible, I think, that there is commonly some degree of

retrograde pulsation in a nutmeg liver, but that in many cases it is very feeble and therefore inappreciable to ordinary methods of examination; and, independently of regurgitation, whenever, from any cause, there exists a condition of constant distension of the veins near to the right auricle, the fluid contained in these parts would be ready to receive and distribute an impulse by mere continuity with the contracting cavities.

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#### CROTALINE AS A REMEDY FOR TETANUS.

THE marked antagonism displayed by the symptoms in cases of traumatic tetanus and snake-poisoning has led Dr. Annam, of New York State, to experiment with crotaline, which is the venom of the poisonous snake. In the one case we have some subtle influence at work in the nervous centres that causes extreme rigidity and spasm of nearly the entire voluntary muscular system—in the other an equally poisonous principle attacks the medulla oblongata and spinal cord, producing paralysis of both the voluntary and involuntary muscles. Dr. Annam narrates a case (in the *Medical News*, 29th September, 1883) of which the following is a précis:—Patient, male, twenty-five years of age; traumatic tetanus followed punctured wound of foot; first tetanic symptoms three days after receiving wound; twenty-four hours later, complete opisthotonos and other symptoms of the most aggravated form of tetanus. A few hours later patient was perceptibly worse, and the case presented no indications of a favourable termination. Chloral, bromide of potassium, and chloroform were freely used without any apparent beneficial effect. Woorara could not be obtained. Being in a locality where rattlesnakes are plenty, a snake-catcher was employed, and venom fresh from the fangs obtained. With this the point of a hypodermic syringe was moistened, and inserted beneath the cuticle in the dorsal region near the spine. Symptoms of snake-poisoning rapidly followed, with amelioration of tetanic spasms and rigidity, which entirely ceased at the end of ten hours, and patient slept for six hours. Thirty hours after insertion of poison, rigidity, with slight spasms, came on again. Snake-poison was again inserted, and the patient made a fairly rapid recovery; but extreme prostration followed the last introduction of venom, which necessitated active alcoholic stimulation, as in all cases of accidental snake-poisoning. There was no diffuse inflammation from the wounds, and Dr. Annam is of opinion that the second insertion of venom was too much, and might have been withheld. There were no results in the case which would deter him from adopting the same course again, and he is of opinion that crotaline may yet prove to be a valuable remedial agent in tetanus, and possibly in some other spasmodic diseases.

J. REX I.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*The Law of Sex; being an Exposition of the Natural Law by which the Sex of Offspring is controlled in Man and the Lower Animals.* With Forty Illustrative Portraits. By GEORGE B. STARKWEATHER, F.R.G.S. London: J. & A. Churchill, 11, New Burlington-street. 1883. Pp. 276.

THE author, who labours under the disadvantage of not being a medical man, claims to make known a discovery of a great law of nature—namely, the law which governs the sexes, and whereby the sex of offspring can be controlled. He has spent twenty years in studying the subject, and although his theory has been matured for several years, he has delayed its publication till he could by extensive observation establish its truth, to use his own words, beyond the possibility of doubt. The question of sex is one which has always agitated inquiring minds, from the days of Aristotle and Plato to those of Darwin and Spencer. Burdach, the German physiologist, has done a service to any interested in the subject by compiling a list of more than a thousand writers who have studied this subject during the past twenty-five centuries. None of these writers apparently have succeeded in solving the enigma, for Darwin gives up the problem as hopeless for the present, in the following words:—"I formerly thought that where a tendency to produce the two sexes in equal numbers was advantageous to the species it would follow from natural selection, but I now see that the whole problem is so intricate that it is safer to leave its solution for the future."\*

Embryology has advanced to the rank of an independent and important science without elucidating the subject. Although since the publication of Von Baer's great work, laid down on the true line of inquiry already marked out by Wolff, all the processes of the development of the embryo have been accurately studied, no light of a reliable character has been thrown upon the causes

\* Descent of Man. C. VIII., Appendix.

determining its sex. Things being in this state we were reduced to the dilemma of either admitting that the potentialities capable of determining sex belong to the realm of the unknowable, or of waiting patiently until the time-spirit, as the Germans say, would whisper the secret into our ears.

Besides explaining the law of sex, the author makes, what he truly calls a bold assertion, that it is perfectly possible to insure the sex of our offspring with something approaching to absolute certainty. It is right, *in limine*, to state there is nothing in this book of the Bradlaugh and Besant type; were it so we would be the last to bring it under the notice of our readers, unless for the purpose of deluging it with the aqua fortis of sarcasm. There is not a page in it which the most pure-minded man or woman may not read without suspicion of offence. Several of the current theories on sex, more than five hundred of which were extant towards the close of the seventeenth century, are discussed in Chapter III.; among the more conspicuous of these are—the Ovary theory, making sex an inherent quality in each *ovum*, independent of outward influences, the father merely arousing its dormant powers; the Spermatic, which makes it wholly dependent upon the fertilising agency of the father—the Ovularian and Spermatic theories fail to account for the production of twins of different sexes; the Epigenesian, adapted from Aristotle by Harvey, who, in the "*Exercitationes de Generatione Animalium*," defined Epigenesis to be the successive differentiation of a relatively-homogeneous rudiment into the parts and structures which are characteristic of the adult; the Maternal Volition or Imagination theory, according to which it is the mother's will or her imagination which may be induced to determine the sex; the Comparative Vigour theory, the three distinctive features of which may be designated comparative vigour, relative age, and nutrition—in other words, the parent who is physically the more vigorous at the time of conception gives his or her sex to the offspring. The older parent, *ceteris paribus*, is assumed to be the more mature and vigorous, and hence imparts the sex. M. Charles Girou de Buzareingues was very successful in the results of this latter theory as applied to animals. In 1826 he divided a flock of some three hundred sheep into two parts—the half that was highly fed and had *young* rams produced females in the proportion of *three* females to *two* males, the other was rather poorly fed, had rams of mature years, and produced *three* males to *two* females, substantially

as he had predicted. The eminent naturalist, Baron Cuvier, took much interest in these experiments of Girou. The theory did not hold good, however, when applied to man, for M. Girou obtained statistics from physicians of eighteen consumptive mothers who gave birth to eighty-seven children. Upon the basis of *comparative vigour*, most of these should certainly have been boys, but seventy-four were girls, and only one-seventh—thirteen—were boys.

Another theory still current among large classes is that of genital vigour or preponderating passion, which supposes that the more amorous parent stamps the sex of the child. The supposed influence of a *præ* or post menstrual impregnation is also discarded as unreliable in the determination of sex.

Having dismissed all these theories as unsatisfactory, the author then approaches a very vexed question, and insists upon the physical equality of the sexes—neither sex is physically the superior, but both are essentially equal in a physiological sense. Were the question of sexual equality to be settled by the mere weight of authority it would probably be summarily decided by a large majority in favour of *male superiority*. From the earliest ages philosophers have contended that woman is but an undeveloped man. Darwin's theory of *sexual selection* presupposes that a superiority has been involved in the male line and entailed chiefly on that sex—that men have developed muscle and brains much superior to those of females, and have transmitted their superior qualities chiefly to their own gender. Herbert Spencer argues that women are inferior to men because their development must be earlier arrested by procreative functions; as the demands of reproduction fall so much more heavily on them, their higher advancement is correspondingly curtailed; hence they can never equal man physically or mentally. As might be supposed, there are few but women who advocate feminine superiority. The general tenor of their arguments is that woman is a later creation, and therefore of a higher order; that she possesses functions—reproductive—in addition to anything man has. In support of their case they advance the facts that females live longer than males; that they are less liable to almost all diseases with the exception of whooping-cough and diphtheria; that seven men die suddenly to one woman—apart from violent deaths, which are in the proportion of four to one; and that animals generally show superior qualities in the female—mares, for instance, being tougher than horses as a general rule.

A fundamental doctrine of Mr. Starkweather's work is that the sexes are essentially equal in a physiological sense—equal but not identical in development, and in relative amounts of all normal force. He quotes a passage from an authoress, Mrs. Blackwell, who contests for feminine equality not superiority, and who thus states the organic equilibrium in physiological and psychological equivalence of the sexes:—"The average males and females in every species always have been approximately equals, both physically and mentally. The extra size, the greater beauty of colour and wealth of appendages, and the greater physical strength and activity in males, have been in each species mathematically set off in the females by corresponding advantages—such as more highly differentiated structural development, greater rapidity of organic processes, larger relative endurance, dependent upon a more facile adjustment of functions among themselves, thus insuring a more prompt recuperation after every severe tax on the energies. The stronger passion force in the male finds its equivalent in the deeper parental and conjugal affection of the female; and in man the more aggressive and constructive intellect of the male is balanced by a higher intellectual insight, combined with a greater faculty of coping with details and reducing them to harmonious adjustment, in the female." . . . "In women, if there is a greater arrest of individual growth than in men, the difference begins in foetal life; their comparative weight and size at birth are the same as at maturity, and if women finish their growth earlier it must be because relatively they grow more rapidly. The feminine circulation and respiration are both quicker; and so are the female mental processes. When the whole subject has been quantitatively investigated with sufficient exactness, I believe it will be found that what man has gained in massiveness, woman has gained in rapidity of action; and that all their powers of body and mind, mathematically computed, are, and will continue to be, real and true equivalents."

The subjects of sterility and heredity are next touched on. The sterility of great men is not so fully discussed as it has been elsewhere, but attention is drawn to the views of the late Mr. W. R. Greg, who believed cerebral development to be a check to fecundity, with the inevitable illustrations of the negroes in America and the lower classes in Ireland, and to the statement of Carey, that "the degree of fertility varies inversely as the development of the nervous system." Mr. Carey is of opinion that civilisation, in so

far as it abolishes drudgery, will cause either physical degeneracy or nervous activity, hence less fertility. The consanguinity of parents, which is looked on by many as a fruitful cause of idiocy, lunacy, disease, and early death, and to which the decay and total extinction of noble families is attributed, does not seem to visit its retribution severely on the Jews, who are most strict in this matter of intermarriage, and yet continue to be a remarkably healthy and clever race. With every respect for retrospective legislation in such matters, we cannot but think the following assertion of the Institute of Heredity of Boston, in one of its publications, is amusingly impudent: "We must insist upon the paramount and supreme right of every human being to be conceived and born in good sound, moral, intellectual, and physical health, and hold all parents to a strict accountability in this matter." It is a pity that while so keenly alive to the responsibilities of parents as to thus stipulate for the abrogation of the second commandment, the Institute did not introduce a provision that every human being should be born with a right to two thousand a year. We fear that for some time to come each new arrival will have to take the world as he finds it, and make the best he can of it, with all its and his own inherited imperfections.

The author's theory is now enunciated, which is, that "*Sex is determined by*" what he designates as "*the superior parent*," and that "*the 'superior parent' produces the opposite sex.*" Having previously insisted that the sexes are equal in the aggregate, male equalling female as true physiological equivalents, he proceeds to show that there are many grades of individual differences and deficiencies in both, which will often produce inequalities of sex in single families. In estimating this controlling influence in individual cases, such factors are to be taken into account as temperament, activity, energy, will, intellect, features, colour, physique, bodily health, nutrition, &c. The invidious meaning of the word "superiority," in ordinary social phraseology, is to be altogether eliminated. It is not intended to convey the possession of superior mental and moral qualities, but it means *everything that tends to increase functional energy* in any part of the system. The term "*inferiority*" means the opposite. It may and often does happen that mental and moral are found associated with functional superiority, but the coincidence is not necessary, and they are often in fact separated. Cerebral development is the key to "superiority," which is to be understood as a fuller and higher development of

organisation. This superiority it is alleged is what determines sex. How it is that it determines the opposite sex to that of the superior parent is not at all clear to an ordinary reader. The author says that the superior germ, subject to that unvarying law of magnetic opposites, which he conceives to embody the principle of universal equilibrium, produces its opposite. This statement can hardly be credited even with the merit of formulating our ignorance with precision. His illustration, however, is plain enough—a “superior” father will beget a daughter, while if the mother be more highly endowed, or even but temporarily more favourably conditioned than the father, the offspring will be of the male sex. He designates his theory as that of “*superior opposites*.” In the discussion as to what indicates and determines “superiority,” great stress is laid on temperament, activity (vitality), will-power (decision), and some very striking descriptions of the different temperaments are quoted from a Spanish volume by Cortés. The author then recapitulates his theory in the following words:—“I assume that the sexes are ideally equal, but that in certain cases, owing to predominance or defect of some part or section of the organisation, one individual is very frequently the permanent ‘superior’ of the other, and even where husband and wife are nearly on an equality, some slight causes will usually operate to produce in one or other a temporary ‘superiority,’ which will give to that parent the casting of the sex of the offspring. Owing to a law, recondite and as yet inexplicable, but analogous to the law of polarity in magnetism and electricity, the ‘superior’ parent determines the sex of the offspring, which will be of the sex opposite to that of the ‘superior’ parent. Among the determining causes of ‘superiority,’ cerebral development and activity hold the first place. To these are to be added various transient influences, the most important of them being the state of health. Physical vigour, habits of life, state of nutrition, mental condition, circumstances, recent occupation—are all factors in determining the ‘superiority’ of an individual at different times. Seniority is usually an element of ‘inferiority’—and, other things being equal, the younger parent will be the ‘superior,’ and will, therefore, produce the opposite sex in the offspring.”

Among the external visible marks of superiority he makes the nose the chief object of study, and has arrived at the discovery that the more decidedly Roman the father's nose, the larger will be the proportion of daughters in the family, and that the converse will be equally frequent. Parents with aquiline noses are generally the



ruling spirits in their respective households. An aquiline nose and a governing disposition are indubitable elements of "superiority." The author's attention was arrested by the case of a family with whose genealogy for three generations he was quite familiar. A Roman-nosed father, of ruling disposition, had a large family, in the proportion of three daughters to one son; the sons died, but the daughters—intelligent, and with aquiline noses—married, and their offspring averaged *three boys to every girl*. The present generation of that family has again three girls to every boy. He has found from an examination of genealogies that where a family is all of one sex, the succeeding generation shows a large preponderance of the other sex. This principle of adjustment maintains the balance of the sexes. In verification of his theory that "the superior parent determines the opposite sex," he quotes three conclusions of M. Girou:—(1) "Men of great character, whether virtuous or dissolute, have had a predominance of daughters." (2) "Men of weak character have had a similar predominance of sons." (3) "All those who have married women of *great character* and *strong* wills have had an excess of sons."

It may be observed in passing that should any father of a preponderance of sons feel a twinge of humiliation at such a declaration [according to this theory] of his "inferiority," he may find consolation in the proof it affords of the superiority of his better-half. The theory has been verified when considered in reference to the mulattoes of the Southern States. These, the children of black mothers by white fathers, show an excess of from 12 to 15 per cent. of females, explained as due to the "superiority" of the white fathers.

Among the whites there is the usual general excess of 5 per cent. of male births. The uniformly large proportion of females among illegitimate offspring, which Darwin speaks of as due to "mysterious influences," are, on Mr. Starkweather's theory, due to the "superiority" of the male parents, who owe their success to their refined manners and seductive qualifications—evidences of "superiority." In all the civilised parts of the world there is a 5 per cent. excess of male births, about twenty-one males being born to twenty females. This has been said to be a wise provision of Nature to supply deficiencies caused by accidents and war, &c., man's life being so much more exposed than woman's. But statistics show that the number of men who really die thus is only about 1 per cent. more, when set off by the casualties to which the

other sex is exclusively exposed—such as the perils of maternity. It is true that seven men die suddenly to one woman, and that they die unnatural deaths from murder, suicide, drunkenness, &c., at the rate of five to one—all of these causes the author maintains leads to an increase of male births, owing to masculine degeneracy. When, by an epidemic such as cholera, which preys excessively on the male population, men are left in a minority, selection comes into play among the consequent excess of women, and only the “superior” ones are married, or rather the “inferior” and less attractive women will fail in securing husbands, because of the minority of the males. The result of this selection of the best women as wives will be an excess in the proportion of sons born and a restoration of the balance of the sexes. The theory that the reciprocal adjustment of the sexes is accomplished by the “superior” parent determining for the opposite sex, accounts for the recovery of the male population after the drainage of protracted wars, as in France after the wars of the Revolution and the Empire. The best men, physically, in such cases are selected for military service and killed, leaving the “inferior” members of the male sex to perpetuate the race. In the succeeding generation there is an excess of sons. In one generation, by the year 1830, nearly all traces of the ravages of war were obliterated from the census returns of France. Among the practical results of his theory the author claims the control of sex, and quaintly advises those still unmarried to procure wives possessed of the requisite physiological “superiority” if they desire to have a fair proportion of sons. To those already married he suggests various means of encouraging a temporary superiority in either parent. These suggestions are more easy to prescribe than to carry into effect, as they involve changes in temperament, constitution, and habits which are often permanent, or so deeply rooted as to be ineradicable.

He does not adduce any illustrations of these results of his theory. It is well known, however, that an illness is a most effectual agent in lowering “superiority,” and that children conceived after an illness are generally of the sex of the invalid parent.

The author claims for his theory that it has been established by the most convincing of proofs—that of personal observation, and that the especial recommendation of it as a theory is that every one can apply it for himself. The best evidence in its favour, he maintains, will be found by the student among his own friends and

acquaintances, and by general observation as he moves about the world.

The theory fails in one notable instance which occurs to us, that of Mohammed, who must be universally admitted to have been a man of acknowledged superiority. For, although the Prophet married seventeen wives (sixteen of whom, strange to say, were widows), instead of a large family of daughters, he had four weakly sons who perished in their infancy.

Lord Macaulay has wisely said that "the place of books in the public estimation is fixed, not by what is written about them, but by what is written in them;" and we leave the "Law of Sex" to be judged by this canon—merely adding, that it contains a group of forty illustrative portraits representative of various facial types of "superiority" and "inferiority."

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*Diseases of the Brain and Spinal Cord: a Guide to their Pathology, Diagnosis, and Treatment, with an Anatomical and Physiological Introduction.* By DAVID DRUMMOND, M.A., M.D.; Physician and Pathologist to the Newcastle-upon-Tyne Infirmary; Physician to the Children's Hospital; Joint-Lecturer on Pathology, and late Lecturer on Physiology in the University of Durham College of Medicine. London: Henry Kimpton. 1883. Pp. 374.

To compress the Diseases of the Brain and Spinal Cord into one volume of reasonable size, without mutilation, is about as difficult an undertaking as to put a quart of milk into a pint pot. The author has, however, so nearly succeeded as to satisfy all but the most exacting. The print is excellent, the paper good, the pages ready cut, and its whole "turn out" highly creditable to the publisher. Twenty-two chapters are devoted to the Brain, sixteen to the Spinal Cord. There are fifty-one illustrations, besides a coloured frontispiece of optic neuritis. Several of the illustrations are simple pen-and-ink sketches, which, though rough, have much more realism about them than elaborate schematic drawings. Others are copied from the works of Ross and Byrom Bramwell. The author freely acknowledges the assistance obtained from the standard books on the subject. The only allusion to mental diseases is a chapter on General Paralysis of the Insane, contributed by Dr. T. W. M'Dowall, Medical Superintendent of the Northumberland County Asylum, Morpeth. In the part devoted to the Brain we did not

observe any special notice of diabetes, delirium tremens, or otherwise, or to Menière's disease. In the part referring to the Spinal Cord there is no reference to concussion or commotion of the spine in railway or other accidents, to spinal irritation, or to ramollissement; and tetanus is alluded to in five lines, under the diagnosis of acute spinal meningitis. Yet many important diseases are clearly and concisely described in all essential particulars, especially their pathology; and those who are pressed for time and have not access to more formidable monographs, will read with profit the author's account of Landry's Paralysis—bulbar paralysis—the chapters on Syphilis of the Brain, and on the Functions of the Brain. The subjects of the "reflexes" and the "cortical centres" are dealt with in a manner consistent with recent physiological teaching. The author's adoption of the word "inhibitory" instead of "hysterical" paraplegia, is, we think, highly commendable.

The book is a very creditable compendium of the more important diseases of the parts of which it treats.

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*A System of Surgery, Theoretical and Practical.* Edited by T. HOLMES, M.A., and J. W. HULKE, F.R.S. Third Edition. In three vols. London: Longmans, Green & Co. 1883.

It is now twelve years since the second edition of "Holmes' Surgery" appeared. The present edition differs widely from its predecessor. It consists of three volumes instead of five, the page is larger, the type smaller, the paper thinner; but in amount of letterpress we think the edition now before us has the advantage. Twelve years, too, have made great changes in the men likely to be employed in such responsible work as the writing of monographs for a standard work. Very many have passed away, and a great deal of the supervision of old articles or the re-writing of them has fallen into younger hands. So long as the writers are careful, well-informed, and of competent judgment no fault is likely to be found with them on account of their age. The editors have certainly made an excellent selection; and some of the articles will bear comparison with anything of the kind that has been written.

The article on "Inflammation," by Mr. Simon, is practically the same as that which appeared in 1871, but Mr. Holmes has interspersed such additional matter as seemed necessary. This, however, is small in amount, and the article mainly stands as it did in the last edition. Mr. Holmes takes occasion to discuss, in a

couple of pages, the views which have been promulgated by Mr. Lister and his followers on the dangers to which operation wounds are liable. As one who is not a believer in the Listerian method, exception can hardly be taken to his statements; and it is something to have the admission that "this proposal (to render inert the impurities of the air before their contact with wounds), tested as it has now been by nearly twenty years' experience, which have ensured its adoption in every part of the world, has had such success as to render it absolutely necessary to inquire into the theoretical basis on which it rests." Then follows a summary of the opposing views; but these are met by Mr. Holmes' own observation:—

"Yet we may allow, and the present writer for his own part is quite free to allow, that the inflammations which originate in some morbid condition of the wound, produced by impurity of some sort implanted from without, bear a much larger proportion to those which originate from within than was formerly supposed, and consequently that the dressing and after-treatment of the wound are far more important as prophylactic measures than the older surgeons believed. The immense success which has attended antiseptic surgery, and has led to its adoption in various hospitals previously deadly, and now almost free from any hospital diseases, is quite sufficient to prove this."

He thinks, however, that "the admission of common air to healthy tissues involves extremely little danger, so long as those tissues are kept from putrefying or putrescible matter," and thus may be explained the success of some non-Listerian methods of dressing.

The "Pathology of Inflammation" falls to Dr. Burdon Sanderson, whose article is of exceptionally high merit. He gives a comprehensive view of the more recent theories. The summary of Wegner's experiments upon the peritoneum are very interesting in reference to the diversity of view that exists regarding the surgery of the abdominal cavity. Dr. Sanderson observes that the "hypothesis that the atmosphere is charged with phlogogenic particles must be unhesitatingly rejected."

"Dr. Wegner began his experiments by testing the influence of common air and common water, and other, in themselves, innocuous liquids, on the peritoneum. Having ascertained that air could be injected in any amount and to any extent into the subcutaneous tissue of the rabbit, so as to produce persistent emphysema, without any effect except the mechanical result of the distension, he applied the same test to the peritoneum by filling its cavity with air and keeping it in an expanded state for several days. No peritonitis ensued, and the result

was equally negative when, instead of leaving the same quantity of air in the cavity until it is absorbed, a stream of air is passed through it for many hours. Next, Dr. Wagner injected into the peritoneum common water—water charged with innumerable septic bacteria, 0.75 per cent. solution of salt, artificial serum, &c., in quantities not exceeding a couple of ounces. These injections produced no effect of any kind. When the animal was killed the day after, the whole was absorbed, leaving the membrane perfectly normal. In other animals, by means of drainage tubes, the peritoneum was irrigated with water or salt solution kept at the temperature of the body. No general or local disturbance occurred, and no pathological change was observed in the membrane, even when the irrigation had been kept up for many hours. It was thus clearly shown that none of the liquids used, whether water, salt solution, or serum, though they were all 'contaminated,' so that a drop of any of them, added to a properly prepared test liquid at the proper temperature, would have infallibly determined putrefaction, had any effect when introduced into the peritoneum, provided that the quantity used, if left in the peritoneum, was not too large to be speedily absorbed; or, if a large quantity was used, as in the irrigation experiment, that it was constantly changed. When these precautions were neglected—that is, when the quantity of water was increased from one or two ounces to four or five—the result was entirely different. Thus, for example, when 150 cc. (about five ounces) of distilled water were injected into the peritoneum of a rabbit, death occurred from peritonitis in twenty hours, just as if some septic liquid had been used. Why? Because if water is introduced into a serous cavity in any such quantity that a considerable proportion of it remains unabsorbed for several hours, the liquid becomes, by diffusion, charged with the soluble constituents of the blood so as to resemble diluted serum—a liquid much more suited for the rapid development of septic organisms than serum itself. The water being contaminated, and the temperature that of the animal's body, all the conditions exist for rapid sepsis. The process of absorption goes on, and the animal dies quickly of septicæmia. In the meantime, the process of inflammation is set up in the peritoneum, the surface of which is found after death to be more or less coated with false membrane, while its cavity contains a liquid which is charged with leucocytes and teems with septic organisms. The latter also plug the lymphatics of the diaphragm, and are found in numbers in the circulating blood. Precisely similar results are observed when any putrescible liquid is used—such, for example, as milk or infusion of flesh, provided that it is injected in sufficient quantity, and that some of it remains for several hours in the peritoneum; and it was found that the results were promoted by the introduction of a small quantity of air. The inference to be drawn from these experiments is so obvious as scarcely to need stating. Air is harmless, water is harmless, septic

organisms, though in full activity, are harmless, provided that they remain only a short time (for an hour or two) in the peritoneal cavity. The one thing fraught with danger is, that the *septic process itself* should go on in contact with living tissue. For this, the essential condition is that a certain quantity of putrescible liquid, such as diluted serum or exudation liquid, should remain in a cavity *outside* of the organism, in the sense of being beyond the reach of living blood and tissue, *inside* as regards temperature, and that that liquid should be contaminated."

Mr. Frederick Treves has an excellent article on a very difficult subject—"Scrofula"—accompanied by three well-executed lithographs of microscopic sections; and we also commend Mr. Butlin's article on Tumours for its accuracy and conciseness. The papers on Injuries of the Upper Extremity (by Mr. Hulke), and of the Lower (by Mr. Henry Morris), are by new authors, and are scholarly productions. Mr. Morris deals with a large subject, for which only a limited space is available; but he does his work in such a manner as to give a sufficient view of the most important and necessary points. In reference to hip dislocations, Mr. Morris maintains, at some length, the opinion that "all forms of dislocation (of this part), when unaccompanied by fracture, are primarily dislocations downwards, with, it may be, a slight inclination forwards or backwards, according to the position of the person and the direction of the violence. They occur when the limb is abducted—*i.e.*, when the thighs are apart, or, if not apart, by the body being forced over on the dislocated side, which of course moves the head of the femur into the same relation to the acetabulum and capsule, as does the movement of the thigh outwards when the body is fixed. Subsequently, and secondarily, the head of the bone may assume a position on the dorsum, ischium, or pubis, by ploughing its way around outside the acetabulum." This view is substantially the same as that propounded by Fabbri. As to direct dorsal dislocation, Mr. Morris knows of only one specimen where fracture did not complicate the dislocation, which shows that the head of the femur passed directly backwards on to the dorsum, or the margin of the sciatic notch. This is a case of Sir Wm. MacCormac's, and is unique. Bigelow states that instances of dorsal dislocation between the rotator muscles—*i.e.*, direct dorsal dislocations—are possibly "comparatively common;" but upon this Mr. Morris observes, that "if we seek for evidence of direct dorsal dislocation without fracture, it is not to be found in the museums of London, Paris, Dublin, Lyons, Montpellier, Bordeaux, or Toulouse."

We are glad to observe that a good deal of the work has been given to Mr. Arthur E. Barker, formerly of Dublin; and we think he has done it well. He has re-edited Lockhart Clarke's "Essay on Diseases of the Muscular System," and written articles on diseases of the joints, of the spine, and of the tongue. In the last-named essay he very properly dissents from the use of the terms "ichthyosis" or "psoriasis" as descriptive of an affection of the tongue, which has nothing in common with conditions of the skin to which these words are applied. He adopts "leucoplakia," as suggested by Schwimmer, to describe the patches which are sometimes seen on that organ, and which undoubtedly are in some cases only the forerunners of epithelioma.

The discussion of the various operations for removal of the tongue, their special dangers or advantages, is very impartially done, and will well repay reading. The mortality from the operation still reaches a high figure, depending upon rather the severity of the procedure than the method actually employed. The statistics, however, are not sufficiently full to determine these points with accuracy, and we must await a fuller investigation of the question. It does appear, however, that although the procedures which involve not merely removal of the tongue but also parts of the jaw, and of secondary deposits in glands, are the most fatal, they are, when they recover, those in which the longest interval elapses before recurrence of the disease. This only means that, so far as relief from the disease is concerned, partial operations about the tongue are bad. The plan of simply removing the diseased part with a small portion of presumably healthy tissue around, is, surgically speaking, a useless proceeding, and the patient might be better left alone altogether. If an operation is undertaken for epithelioma, it ought to be thorough.

Mr. Birkett, whose name is a guarantee for thoughtful and careful writing, contributes the article on Hernia. We are glad to notice that he speaks out boldly upon the subject of early operation in cases of strangulation. A good deal of the death-rate is of course due to the patient, who is frequently ignorant of the gravity of his symptoms; but, on the other hand, a good deal is due to timidity or want of promptness on the part of practitioners. Before Mr. Hey's time the operation had never been done in Leeds, and that surgeon lost three out of five cases operated upon. Mr. Birkett asks—"Are the results of the treatment of strangulated hernia more successful at the present day?" and he answers, "We



fear not." "We hope," he elsewhere observes, "that the mortality arising from strangulated hernia is not now so large as it once was. Nevertheless, at this moment it is excessive; and when we know, and all professing surgery should know, how surely the liberation of the bowel tends to save the life of the patient, why is it not done the moment all other measures have failed to replace the gut in the abdominal cavity? Some medical men do not seem to be sensible of, or to appreciate the vast amount of injury which is certain to accrue from the persistent vomiting, nor to value the indications derivable from the character of the vomit. They most assiduously attempt to check the vomiting by administering medicines; but they utterly reject, at the suitable moment, the only means by which it is to be arrested." This is severe comment, and at least in the latter part we hope it is not quite justified. To deal only with the vomiting, and to leave the cause untouched, is so stupid or ignorant a thing, that we should be sorry to think there were many practitioners guilty of such a trifling with life. But in any case we are very glad that Mr. Birkett teaches so vehemently the truth that, in strangulated hernia, the danger lies not in the operation, but in the avoidance of it.

On the question of operation for radical cure, which is now coming prominently before the profession, Mr. Birkett is not less decided in his opinion. He does not approve of these attempts, and, as a consequence, he does not devote more than a few pages to the methods which have been suggested. Some of the more recent, such as Spanton's, are not even mentioned. Mr. Birkett objects to an operation which may prove only so far successful as to impede the descent of a hernia, but yet leaves the patient under the necessity of continuing to wear a truss to prevent a recurrence of the rupture. "We believe," he says, "that we shall not err in enunciating the principle that the cases of inguinal hernia, selected for the performance of all operations for the radical cure, should be those in which the protruded viscus has descended into a patent vaginal process of the peritoneum, and that all other kinds should be rejected as unsuitable." We must altogether dissent from this teaching. Mr. Birkett can hardly be aware of all the work which has been done in the way of radical cure during the past few years, and of the comparative safety with which excellent results have been accomplished. We are sorry to have an opinion so strong and hostile from such a quarter, but we believe that the operation for radical cure, by some method—whether open or subcutaneous—has thoroughly established itself in surgical practice.

The article on Aneurysm, by the editor, is one of the longest in the work, and is as full as could perhaps be expected. So far as it goes it is a fair record of the views—old and recent—regarding this affection.

Sir H. Thompson repeats his articles, with some alterations and additions, upon the Genito-Urinary System and its Affections.

For the rest we may say that, while some of the articles have been re-written, most of them have been simply modified by their editors, in accordance with the latest advances. But the work has been done thoroughly well, and the editors may be very reasonably proud of such a result of their united efforts. Holmes' "System of Surgery" has obtained a position as a reference-book second to none in the language. Its great rival, "The American Encyclopædia of Surgery," successful as it is, does not in any sense eclipse it, and it will still remain a credit to British surgery.

Generally speaking the illustrations are well executed; but we are surprised to see such an absurd picture as that which faces page 338, Vol. III., in Mr. Lee's article on Venereal Diseases. It is quite unlike what it is intended to represent. The other lithographs in the same volume are inferior.

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*The Topographical Relations of the Female Pelvic Organs.* By AMBROSE L. RANNEY, A.M., M.D. With 22 Woodcuts. New York: Wood & Co. Pp. 121.

UNTIL quite recently our ideas on this subject were undoubtedly faulty; and still we are left in uncertainty, as our author points out, on many important particulars, thus:—

"As we pass inward in our investigations from the tissues which help to form the pelvic floor towards those which enter into the formation of the vagina, uterus, Fallopian tubes, ovaries, urethral canal, bladder, and rectum, not to speak of the fascia, the pelvic cellular tissue and peritoneum, the ligamentous structures connected with the organs mentioned, and the blood-vessels, lymphatics, and nerves, it is impossible to single out one which is not to-day an open field for scientific discovery."

Nor is this uncertainty the result of neglect, but arises rather from the inherent difficulties of the subject itself. Of late a host of investigators have devoted a wonderful amount of skill and ingenuity to determining some of these vexed questions, amongst whom we may mention such men as Fritsch, Schultze, Van de Warker, Hasse, Kohlrausch, Pirogoff, Garriguez, Budin, Lushka,

Hart, and M. Duncan. The writings of these original investigators are, however, scattered through the literature of different countries, and are written in various languages, and thus are not accessible to the ordinary student, who needs to have them collected for him, and expressed in a compact form and in a language which he can understand; and this has been very successfully accomplished for English-speaking students in the pamphlet before us. We do not, however, wish to imply that our author is a mere compiler of dry facts; on the contrary, he has not only collected what is up to the present known upon the subject treated of, but he has carefully sifted and tested the information thus acquired. His own experience seems to have been derived chiefly from dissection, and in many places he shows a bias, which is natural, in favour of *post mortem* rather than clinical investigation. We shall only mention a few of the views expressed in the pamphlet. In considering the structure of the pelvic floor, he denies that there is any analogy between the perineal body and the keystone of an arch; "because it is a principle of all mechanical devices, into which a keystone enters, that the base should be directed toward, and not away from, the weight supported by it, otherwise the keystone would slip out of its own weight, and the arch would fall." He does not agree with Hart that the pubic and sacral segments have any similarity to hinged flaps; the latter has not an anterior free margin, but, on the contrary, it is continued forward to the symphysis pubis, in all antero-posterior sections of the pelvis except in the median line. The sacro-uterine ligaments also are a practical extension of the pubic segment to the posterior bony wall of the pelvis. The axis of the vagina forms an angle of forty degrees with the plane of the horizon when the patient is in the erect posture, though most drawings place it more nearly vertical. Our author does not help us much in answering the important question—What is the normal position and attitude of the uterus? His objection to the method devised by Foster—and the same applies, to a less extent, to that employed by Schultze—is that by it the direction of the canal of the cervix only is determined, rather than that of both cervix and body of the uterus. The bimanual examination, he says, "is not a reliable method;" and, in spite of what has been stated to the contrary, he believes that *post mortem* examination of young nulliparous women is the best means of determining this question. He believes that most anatomists are in error as to the relation of the Fallopian tubes to the ovary.

"In most of the accepted drawings of these parts the Fallopian tube is represented as practically straight for some distance, and then to terminate in its fimbriae, which hang considerably below its level, but in relation to the outer extremity of the ovary. Now, on the contrary, the Fallopian tube has assumed rather the condition of an incomplete surcingle to the ovary, the fimbriated extremity passing so far below and around the ovary as to lie immediately beneath its convex border."

He thinks that gravity alone is an important factor in causing the ovum to fall into a proper place for its prompt transmission to the uterus by the Fallopian tube. Although this little work contains little that is either new or original, it is interesting as the work of a careful and painstaking critic.

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*Elements of Surgical Pathology.* By AUGUSTUS J. PEPPER, M.S., M.B. Lond., F.R.C.S. Engl.; Surgeon to St. Mary's Hospital. With Eighty-one Engravings. London: Cassell & Co., Limited. 1883. Pp. 503.

THIS volume is the second of the series of students' manuals published by Messrs. Cassell & Co. They are all uniform in shape and appearance, neatly bound in red cloth, limp, with red edges. These volumes are designed for students and medical practitioners, and we are told that they contain "all the information required for the medical examinations of the various colleges, halls, and universities in the United Kingdom and the Colonies." As a further inducement "the authors will be found to be either examiners or the leading teachers in well-known medical schools." Though the little book before us belongs to a class which we have frequently condemned in the pages of this Journal, we are bound to acknowledge that it is one of the best of its kind which we have seen. The information it contains is good, and, though in a very condensed form, the writing is clear and readable, and the matter brought up to date. Should students, in presenting themselves for examination, be well grounded in the pathology which this little book supplies, the examiners might fairly be satisfied with their degree of knowledge. The illustrations deserve notice from their clearness and excellence. Sixty-six are original, the remaining fifteen being copied from standard works.

Should the remaining volumes of the series exhibit the same care in compilation and in accuracy of description, the publishers may well be congratulated on the success of their manuals.

*Index-Catalogue of the Library of the Surgeon-General's Office, United States Army.* Vol. IV. E—Fizes. Washington: Government Printing Office. 1883. Large 8vo. Pp. 1,033.

WE note the publication of the fourth volume of this splendid work, the object and scope of which have been already described in the pages of this Journal.\*

The present volume includes 4,802 author-titles, representing 1,926 volumes and 3,885 pamphlets. It also includes 12,361 subject-titles of separate books and pamphlets, and 48,977 titles of articles in periodicals. The entries are from "E" to "Fizes." The book is brought out in the superior style which characterised the preceding volumes.

*The Mother's Guide.* By JOHN M. KEATING, M.D. Revised and Re-written by ARMAND SEMPLE, M.D. London: H. Kimpton. Crown 8vo. Pp. 68.

THIS little book, brought out in the form of a Health Primer, contains a good deal of useful advice, especially designed for the guidance of young mothers who, "through false modesty," have been "carefully kept in ignorance of the demands that babyhood will make upon them." In it they are carefully instructed in the management of infants—1st, from birth to dentition; 2nd, during that process; and 3rd, subsequent to it. A large portion of the first part is occupied with the subject of bottle-feeding, the importance of which cannot be over-estimated, and we commend the careful manner in which Dr. Semple enters into every detail of testing, preserving, and preparing the food, but it seems to us a little too much to expect a husband to make a sanitary inspection of the dairy, "see the cows, and question as to their feeding," &c., even supposing him to possess the requisite knowledge. Nor is it necessary that the young mother should make the acquaintance of her milkman, and "interest him specially in herself and her child," so that, aided by the expenditure of "a few extra shillings," she may obtain milk from a cow "noted for its milk agreeing with infants." It is most necessary that those who have the charge of infants should understand the immediate and proper treatment of convulsions, laryngismus stridulus, and croup. If mothers could only be induced to learn these things, many a life would be saved

\* See Vol. LXXIII. January, 1882. Page 48.

which is at present lost through ignorance and prejudice. This little book has two marked advantages over others of the same class—namely, brevity and cheapness.

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*The Extra Pharmacopœia of Unofficial Drugs and Chemical and Pharmaceutical Preparations.* By W. MARTINDALE, F.C.S., and W. WYNN WESTCOTT, M.B. Lond. H. K. Lewis. 1883. Pp. 313.

WE have much pleasure in commending this useful little work to the notice of our readers, and predict for it a ready sale.

Judging by the lapse of time—sixteen years—since the publication of the last edition of the British Pharmacopœia (nine years since the “Additions”), its compilers appear to have comfortably fallen asleep; but, nevertheless, pharmacy and therapeutics have not remained stationary—new drugs have been introduced, and old ones put to new uses; so that a large number of preparations—many will think too large—have come into general circulation. The purpose of this small book is shortly to describe these new articles, and their uses. Mr. Martindale is responsible for the pharmaceutical details, and Dr. Westcott for the references to the therapeutics of the drugs in question.

The result of their cooperation has been to produce a really valuable compendium, which conveys a large amount of useful information in a convenient form, and every practitioner will appreciate it as a handy book of reference.

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#### CARDIAC PALPITATIONS.

M. PETER explains the occurrence of palpitation of the heart as being due to different circumstances affecting its innervation. Palpitation may be due either to excess or defect of innervation. Under the first head come those forms of palpitation that result from stimulation of the ganglionic cells of the myocardium, from stimulation of the great sympathetic, or from increased activity of the heart in endeavouring to overcome an obstacle (spasmodic palpitation). The second form of palpitations result from a diminution in the activity of the pneumo-gastrics, from fatigue, or from an alteration in the myocardium (paralytic palpitations). Side by side with this kind of physiological antithesis, in palpitations being due either to excess or to defect in innervation, a form of pathological antithesis is also observed in the occurrence of palpitations resulting from plethora as well as from anæmia.—*Gaz. Méd. de Paris*, 27th Oct. 1883.

## PART III.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ACADEMY OF MEDICINE IN IRELAND.

President—J. T. BANKS, M.D.  
General Secretary—W. THOMSON, M.D.

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#### PATHOLOGICAL SECTION.

President—A. H. CORLEY, M.D.  
Sectional Secretary—E. H. BENNETT, M.D.

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*Friday, November 30, 1883.*

The PRESIDENT in the Chair.

#### *Pseudoglioma.*

MR. JOHN B. STORY exhibited an eyeball removed from a boy, aged eight months, for purplastic inflammation in the interior of the globe. Numerous microscopic preparations were shown, demonstrating the pathological distinctions between this disease and glioma retinae, of which three undoubted specimens were exhibited for purposes of comparison. Mr. Story agreed with most authorities in holding that in some cases the diagnosis was so difficult it had to remain for a time at least uncertain.

MR. SWANZY said that, as he understood the case, it seemed to be one of the spontaneous formation of pus in the interior of the eyeball—a purulent infiltration of the interior of the eyeball, starting probably from the chorioid. That being so, the specimen was rather a rare one; for, according to general experience, such an occurrence was connected in some way with septic disease, the direct result of a wound or injury to the eyeball, or with septic blood disease. They knew that this purulent chorioiditis might occur in cases of metria or of septicæmia after surgical operations, and from other causes. It also occurred in cerebro-spinal meningitis. He was not aware of any instance in which it had occurred spontaneously. It was hard to understand how it should. He had never

seen a case of purulent chorioiditis in connexion with vaccination after inflammation; but he had seen affected eyes that seemed to be the result of purulent infiltration of the chorioid, and in cases in which he learned that there had been inflammation of the arm after vaccination. It was easy to understand septic matter being carried from the arm to the vascular coat of the eyeball.

DR. ARTHUR BENSON said there had been great difficulty in making an exact diagnosis. Before the eyeball was extracted there was so much inflammation that he was of opinion it was not true glioma. On enucleating the eyeball it was found that the inflammation had extended to the orbit, and that there was further disease all round; so that it seemed as if the case was one for more or less dissection; but it turned out that there was only a thickening of the tissues, and no protrusion of anything through the sclerotic.

MR. STORY, in reply, said that the occurrence of spontaneous suppurative hyalitis or chorioiditis was very rare; but he did not see why it should be impossible for pus to originate in the eye any more than elsewhere. Spontaneous suppuration had occurred in other places in the same child, and there were spots on the skin. The occurrence of spontaneous suppurative hyalitis was not, however, a thing unknown; for in a paper published in the last number of the "Transactions of the Ophthalmic Society," Mr. Nettleship recorded several cases of pseudoglioma; and Mr. Brailey, in "Guy's Hospital Reports," recorded the occurrence of spontaneous suppurative hyalitis, and spontaneous diffuse morbid changes of the eyeball. One of the reasons for enucleation in the case in question was the fear lest the second eye should become implicated.

*Pervious Urachus, with remarkable Disease of Bladder.*

DR. C. B. BALL exhibited specimens taken from a patient, aged ten years. Twenty months previously to his death the patient was admitted into Sir Patrick Dun's Hospital suffering from incontinence of urine. He had frequent attacks of hæmaturia. The water was alkaline, and contained considerable quantities of pus. Sounding gave negative results. These symptoms subsided under the treatment, and he was discharged, but was re-admitted, January 13, 1883, with urine flowing from the umbilicus, none coming by the urethra. His mother stated that three weeks before his re-admission a small gathering had formed at the umbilicus, which broke, and since then all the urine had come by the abnormal opening. Attempts to pass any instrument by the urethra into the bladder having failed, a laminaria tent was placed in the umbilical opening. This was followed by dribbling of urine from the urethra in three hours, the first that had passed naturally for seven weeks. A catheter could now be passed without difficulty, but not



retained in the bladder. Cauterisation of the umbilical cicatrix, with a subcutaneous ligature passed round the umbilicus when granulation was established, closed the opening for ten days; but, fresh suppuration supervening, the fistula re-opened. A further and more extended cauterisation was again followed by closure. The bladder now to a certain extent regained the power of holding water, it being noticed on one occasion that he retained his urine for two hours. Three weeks subsequently, without apparent stoppage of the urethra, the umbilical orifice re-opened, urine now flowing by both channels. A plastic operation was performed, and a cicatrization with progressive occlusion of the abdominal opening took place. This continued intermittently for two months, and he was discharged on October 15th. On November 18th he was seized with peritonitis, and died the same day. A *post-mortem* examination was held. Upon opening the abdomen a small quantity of fluid was found in the peritoneal cavity, with abundance of recent lymph. The omentum was adherent to the front abdominal wall, apparently as the result of an old-standing peritonitis. The bladder was much contracted and the walls increased in thickness. Springing from the fundus was an elongated tongue-shaped cavity reaching up to a level with the umbilicus, measuring  $2\frac{1}{2}$  inches by  $1\frac{1}{2}$  inches. Upon opening the bladder a number of new growths were found, resembling in appearance the *carneæ columnæ* of the heart. Some were attached by one extremity only; others by both ends, a space being left between the side and the wall of the bladder. They also frequently intersected. The microscopical examination of these growths showed them to be composed of fibrous tissue covered with mucous membrane. There was no evidence of true papillary structure. The obstruction to the urethra was caused by a septum attached posteriorly immediately below the openings of the ureters, and stretching to the front wall. This was divided in opening the bladder. Springing from the fundus, the cavity before mentioned communicated with the bladder by a large opening, and its walls contrasted markedly with the bladder walls, being exceedingly thin and smooth on the surface. In the front of this, two openings communicated with the peritoneal cavity, by means of which the fatal extravasation took place. A microscopical examination of the wall of this cavity showed it to be lined with mucous membrane, thus demonstrating the fact that this was a case of dilated urachus. The ureters and kidneys presented appearances of long-standing bladder destruction.

The PRESIDENT said he saw the case while the patient was in hospital, and seeing now the result of the *post mortem*, he did not quite agree in the opinion that the urachus was completely obliterated. Obstructions in either the bladder or the urethra had such a degree of force that they would enlarge an unobliterated urachus.

DR. BENSON said Dr. Ball's case reminded him of one of a man in the

City of Dublin Hospital who came there for a chest affection. Whilst in hospital he directed attention to a small lump about an inch below the umbilicus. It got larger, grew soft, and was opened. The man died of chest disease and kidney disease combined; and they traced an abscess backwards into the cavity of the abdomen and found that it originated in the apex of the wall of the bladder; the abscess had evidently commenced in a very backward part of the wall of the bladder. He was doubtful at the time whether it could be ascribed to the urachus or not. He searched for the urachus at the time, but found no trace of it.

DR. BENNETT observed that this case had a greater surgical than pathological interest; but the section was of course limited to the latter view. The difficulty of diagnosis in such cases was extreme. He had seen the case with his colleague from the beginning, and he could not arrive at anything like a satisfactory diagnosis of it. The extreme freedom with which a probe passed in the first instance suggested the possibility of a pervious urachus. The great practical point was that— notwithstanding that in other respects this boy was in comparatively good health—yet, whether surgical interference was resorted to or not, his life hung on a thread. Although trifling external conditions were prevented, the case might have become disastrous at any moment by rupture.

MR. STORY thought Dr. Ball had laid too much stress on the supposed existence of a membranous diaphragm in the bladder. He said that in the early part of the case he could pass a probe through the umbilicus and a catheter through the urethra. If a membranous diaphragm had been there he could not have done so. Possibly the membranous diaphragm was only of partial extent.

DR. BALL, in reply, said that where an obliteration represented the urachus, there was some trace of a mucous membrane to be found in the middle of it. He did not mean to convey that that was pervious. The first time the boy was brought to the hospital great difficulty was found in passing the sound, his first attempt to do so being a failure. But Dr. Bennett succeeded in passing a sound by depressing the handle. Afterwards he passed a catheter through the urethra and a probe through the urachus and made them touch.

#### *Cysto-Sarcoma of the Breast.*

DR. BENNETT exhibited and described a cysto-sarcoma of the breast. He said the specimen had been in the strongest spirits since last June, and had shrunk so much that a very imperfect idea of its original dimensions could now be formed. The drawing exhibited of a similar tumour, taken from a patient of the late Dr. Rawson, of Carlrow, exactly represented the original condition of the specimen under notice. In Dr. Rawson's case the tumour weighed 13 lbs.; the present specimen weighed

14 lbs. As far as he could ascertain the patient suffered from it about six years. Her age was between forty-three and forty-four. In every other respect she was healthy. The tumour had been noticed from the first as a changing one; but she had never suffered the smallest distress from it, save by reason of its weight. It first appeared as an irregular lump on the breast, and afterwards grew irregularly, sometimes remaining quiescent and at other times enlarging. During the last two or three months its weight became so cumbrous that she applied for advice. The name of the tumour was that adopted by Müller—*cysto-sarcoma physodes*. It had branching masses passing through it, and the whole of their surfaces were covered with epithelium of the mammary ducts. The pectoral muscle was so intimately adherent to and absorbed by the tumour that it was impossible in removing the tumour to save the muscle. The latter had to be divided almost entirely across. But it was no great loss to the patient, for the muscular tissue had been almost reduced to a mere membrane. Another feature was that the skin, although it exhibited big bosses, was in every part extremely thin and was everywhere entirely separable from the substance of the tumour. So great was the weight of the tumour that on an attempt being made to raise it in the course of the operation the skin came away bodily, leaving only the nipple. Over the surface were large veins which gave rise to an apprehension that there would be troublesome bleeding; but, strange to say, in the operation they had only to ligature two little trifling vessels in the lower part of the tumour, which they might almost have let alone. Dr. Purser had made a microscopical examination of the solid masses of the tumour, which proved that they were sarcomatous masses varying in density, being in some places soft and in others dense and fibrous, but in all cases of the nature of typical spindle-celled sarcoma.

DR. ROBERT M'DONNELL asked did the cyst contain mucine, and also had any signs displayed themselves of a return of the disease? Some years ago he exhibited to the Pathological Society a tumour, similar to this, which he removed from a lady in the neighbourhood of Dublin. It weighed 14 lbs., and its history was very similar to that of Dr. Bennett's specimen. It was quite painless, and gave inconvenience only from its bulk. It was very readily removed, and the difficulty of controlling the hæmorrhage was very slight—in fact, the skin contracted so rapidly that the pressure on the veins sufficed to control it. The tumour was found to consist of soft spindle-shaped sarcoma, but it was full of mucine. He had seen several similar tumours, though not so large as these, and he had found them all full of mucine. In the case of the lady he had mentioned the tumour returned in a year and was successfully removed; but two years later it returned again and was irremovable, and the patient died.

Dr. BENNETT said the tumour abounded in mucine, as was evident by

the threads which could be drawn, and from the surfaces of the sections, even after a long immersion in spirit, when the faces of the sections were laid against each other. The patient ceased to be under his observation a month after the operation, and he had heard nothing but favourable reports since.

*Tumour removed from the Dura Mater.*

DR. WALLACE BEATTY showed a tumour growing from the dura mater covering the upper surface of the right hemisphere and involving a considerable portion of that hemisphere. The specimen was taken from a patient under the care of Dr. Head in the Adelaide Hospital. The microscopic examination, made by Dr. J. H. Scott, showed it to be a spindle-celled sarcoma, the cells in fact forming nests. The chief points of interest about the tumour were—(1) the fact that there was a depression of bone inwards, causing a depression of the dura mater, and with it the centre of the upper surface of the tumour; and (2) the fact that many years before the patient received a very severe blow from a bottle on the right side of his head opposite the seat of the tumour, causing temporary unconsciousness. The connexion, however, of the growth of the tumour with this injury was not clear.

The PRESIDENT thought the original injury had nothing to do with the growth of the tumour. He was not satisfied that the projection was not the result of fracture of the internal table.

DR. SWANZY said he examined the patient's eyes, and only found in one eye a slight tendency to optic neuritis.

DR. BENNETT said, on the question whether the appearances on the inner table of bone were due to fracture, he believed these appearances to be such as to exclude the idea of injury. There was a layer of new bone which possessed none of the characters of the bone displaced.

DR. BARTON believed there were evidences that the injury was the cause whence the tumour had sprung.

DR. QUINLAN asked was the blow of the bottle over the site of the tumour?

DR. BEATTY.—It was stated to be on the right side of the head, and the tumour was on the right side.

DR. STORY said a respectable percentage of sarcomatous growths in the eyeball was traceable to injuries. Professor Foukes, in his work on "Sarcomatous Growth of the Chorioid," stated that ten per cent. of such cases had histories of antecedent injury. Too much stress, however, ought not to be laid on that, because persons having anything wrong with their eyesight had a tendency to attribute it to some external cause.

DR. HENRY KENNEDY said he had seen disease of the bone exactly similar to this which was traced to syphilitic poisoning. The supposition

could scarcely be admitted of a tumour growing for twenty-three years. He had seen tumours of the kind develop in the cerebrum, but with a vast deal more suffering than occurred in the present case.

DR. BEATTY, in reply said he got no syphilitic history in the case. He had no opportunity of examining the spinal cord, but the rest of the cerebrum looked quite normal.

The Section then adjourned.

### MEDICAL SECTION.

President—WILLIAM MOORE, M.D., President K.Q.C.P.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

*Friday, December 14, 1883.*

The PRESIDENT in the Chair.

#### *Specimens Exhibited by Card.*

DR. C. J. NIXON.—(1) Abscess in temporo-sphenoidal lobe; (2) scirrhus of the pylorus. DR. J. MAGEE FINNY.—(1) Gangrene of the lung; (2) a perfect specimen of a Guinea worm.

#### *Protean Skin Affection in Children.*

DR. C. F. MOORE read a paper detailing a protean skin affection. He stated that children are not infrequently attacked with a complication assuming a resemblance to pruritus cutaneus of Hebra; prurigo, pemphigus, and in some severe cases pemphigus gangrænosus, or "burnt holes" of older authors. The diseases, which in Dublin had been complicated with the foregoing in varying degrees of severity, were—varicella, scabies, dentition, certain forms of rash induced by insects, inunction of irritating medicinal or domestic remedies, and rarely vaccination. The cases which had lately come under his notice were those of children whose ages varied from a few weeks to eight years. He did not think he had seen in this country a case of the disorder specially named prurigo by Hebra. Bad or unsuitable food tended strongly to the production of the disorder. The irritation caused by pediculi and other insects, and by clothing in a damp or uncleanly state not uncommonly produces pruritus indigenus, a tedious affection of the skin. Unhealthy surroundings and a low condition of the child, or of its nurse, tended greatly to the production of the rather protean form of ailment which he wished to bring under notice. The treatment of these cases resolved itself into general and local—better sanitary conditions, better food for the child, removal, as far as possible, of the causes of irritation, thorough cleanliness, and,

generally speaking, soothing applications; baths with bran, or tar, or liquor carbonis detergens, &c.; mild alteratives, with suitable tonics; cod-liver oil or preparations of iron. In all cases inquiries should be made for the presence of intestinal worms, and the suitable treatment pursued. The affection which seemed allied to prurigo, pruritus, and pemphigus, occurred in eight cases that were originated apparently by varicella; in four cases where scabies existed previously; and in one case in which tallow had been used as a domestic remedy by inunction; and in another in which a very slight appearance of prurigo mitis existed. The latter ailment was apparently increased after vaccination. The cases that had come under his notice had occurred almost invariably either in the cold spring or early winter. He did not refer to the many cases of pruritus and prurigo that he had seen in the adult and in youth. The affection noticed by Mr. Hutchinson, of London, as varicella prurigo, and regarded by Mr. Balmanno Squire rather as ecthyma or lichen urticatus, seemed to resemble cases which he had seen in Dublin, but which were of a very protean character, and did not generally assume the serious forms described by Mr. Hutchinson, or by Professor Hebra, in describing the lifelong character of the prurigo met with at Vienna.

DR. H. C. TWEEDY described the case of a boy, aged sixteen years, who had come under his observation, presenting the features of true prurigo, which he had since childhood, and which resisted all treatment.

DR. DUFFEY said Dr. Moore had described several skin affections, but had not specified the particular one which he considered now prevalent. It was a common thing to find eczema on the soles of the feet and palms of the hands in infants.

DR. FITZPATRICK considered Dr. Moore had combated the idea that vaccination was a cause of skin disease. He did not believe that pure vaccine matter would produce skin disease in a healthy child.

DR. MOORE, in replying, said he was glad to find that Dr. Fitzpatrick's extended experience confirmed his own opinion that vaccination in itself was not a cause of skin disease.

#### *A Case of Pulsating Liver.*

DR. WALTER SMITH reported a case in which he had observed true regurgitant throbbing of the liver in connexion with mitral valve disease. [This communication will be found at page 54].

DR. WALLACE BEATTY said the patient lived only a few hours after his readmission to hospital, and during that time the liver did not pulsate.

The PRESIDENT mentioned a similar case which had come under his notice three years ago, in which mitral stenosis with dilatation existed together with a visible jugular pulsation called post-systolic pulsation.

DR. C. J. NIXON thought it would be difficult to distinguish between an eccentric pulsation of the liver due to regurgitation of blood into the

hepatic veins and that general pulsation which the liver in a state of extreme congestion might receive from a pulsatile condition of the inferior vena cava.

DR. SMITH, in reply, admitted the force of the point raised by Dr. Nixon. Still it remained a question why those cases were not observed in Dublin as they had been in London and Newcastle.

*Brachial Monoplegia with Anæsthesia.*

DR. C. J. NIXON, having exhibited the patient, read the notes of a case of partial motor paralysis of the left arm occurring in a girl, aged nineteen, who was under his care in hospital. The chief points of interest in the case were shortly these:—The girl had been engaged washing clothes in very hot water, in May last, when she remarked her hand and forearm becoming numb. Next day the numbness had extended up to the shoulder, and the entire arm became powerless. Shortly afterwards the numb feeling extended upwards to the left side of the neck and face, and downwards over the left half of the thorax. She was admitted into hospital. The notes of her condition were made as follows:—*Motor function.*—Partial paralysis of left arm was more marked in movements of the wrist than in those of the elbow, while there was least apparent power in the shoulder. No rigidity of any kind was observed in the movements of the limb. *Sensory function.*—Complete tactile anæsthesia over left arm, left side of face, including left ear and left half of thorax. Common sensibility was affected to a very considerable degree. The patient bore on this arm the passage of a needle through the skin, the application of a heated iron, the most severe pinching, and the application of the induced current, without manifesting any expression of pain. *Temperature.*—The temperature of the left arm was sensibly colder than that of the right. Its aspect was considerably altered from the normal state, being of a dusky bluish colour. There were some evidences of trophic disturbances in the occurrence on the fingers of the left hand of patches like chilblains. There was a marked ischæmic condition present over the anæsthetic parts. *Sight.*—There was no alteration in the patient's left fundus oculi. The cornea was completely anæsthetic. There was no achromatopsia. *Hearing, taste, and smell,* appeared to be unaffected. In discussing the points of interest in connexion with the case, Dr. Nixon dwelt upon the impossibility of connecting the lesions observed, especially the irregular distribution of the anæsthesia, with any localised central lesion; so that he was obliged to regard the case as an instance of the curious manifestation of the great neurosis—hysteria. In this case, however, there were none of the usual antecedents or concomitants of the hysterical condition. The family history of the girl was very good, there being a complete absence of any trace of nervous development in the parents, or

in her brothers and sisters. The girl's generative system was in no way affected. She had no evidence of exalted sensibility in any part, and her disposition was the opposite to that observed in hysteria.

MR. STORY corroborated Dr. Nixon's account of the girl's eyes, except that when he examined her the lachrymal secretion was the same in both eyes.

DR. WALTER SMITH thought that the sudden disappearance of anæsthesia did away with an intracranial origin for the disease.

DR. FINNY mentioned a fatal case of acute ascending spinal paralysis, in which *post mortem* examination failed to exhibit any gross lesion to account for the symptoms.

The PRESIDENT, DRS. H. KENNEDY, J. J. MURPHY, A. BENSON, and JAMES MARTIN, having also joined in the discussion,

DR. NIXON replied, and

The Section adjourned.

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#### THE ANTAGONISM BETWEEN PARALDEHYDE AND STRYCHNINE.

PROFESSOR V. CERVELLO has examined paraldehyde, which he recommended in an earlier contribution as a substitute for chloral hydrate (and which has since been more thoroughly investigated by Morselli and Albertoni), in reference to its efficacy in strychnine poisoning. From experiments on frogs and dogs, he comes to the following conclusions:—Animals to which fatal doses of strychnine have been administered may be rescued by non-fatal doses of paraldehyde, which not only prevents death, but also the appearance of the symptoms of strychnine poisoning. Narcosis by paraldehyde is the same in animals poisoned by strychnine as in those in a normal condition. The temperature and frequency of breathing always become less, and the reflex action weaker. Paraldehyde overcomes strychnine poisoning in doses not nearly sufficient to produce narcosis. Previous administration of strychnine delays the narcosis of paraldehyde, but its course undergoes no modification. Paraldehyde hinders the increase of the blood-pressure caused by strychnine. With frogs the effects of paraldehyde are but transient, since it quickly passes out of the system; but strychnine remains a longer time, and its effects are more lasting. Poisoning by paraldehyde is not antagonised, and in general is not modified, by strychnine, either in large or small doses. No mutual antagonism exists, therefore, between the two poisons. Both act centrally—one augmenting, the other diminishing, the reflex action of the gray substance of the medulla.—*Deutsche medizinisch-Zeitung*, October 4, 1883, and *The Polyclinic*.



# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P., F.R. Met. Soc.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, December 1, 1883.*

Towns	Population in 1883	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES										DEATH-RATE per 1,000	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	Deaths from Puhlieis	From all causes	From seven Zymotics		
Dublin, -	349,685	668	735	137	178	-	3	37	-	13	12	12	80	27·3	2·9		
Belfast, -	214,022	444	409	80	76	-	-	18	-	13	12	6	54	24·9	3·0		
Cork, -	80,124	152	145	19	38	-	9	2	1	1	9	7	17	23·5	4·7		
Limerick, -	38,562	67	93	16	17	-	1	9	2	5	4	2	9	31·4	7·7		
Derry, -	29,162	62	66	4	9	-	-	25	-	2	4	1	2	29·4	14·3		
Waterford, -	22,457	58	55	11	15	-	-	1	-	7	3	2	7	31·8	7·5		
Galway, -	15,471	13	24	1	11	-	-	-	-	-	-	1	1	20·2	0·9		
Newry, -	14,808	27	21	5	5	-	-	-	-	-	-	2	3	18·5	1·8		

### Remarks.

The death-rate in the eight chief towns of Ireland ranged from 31·8 per 1,000 of the population annually in Waterford and 31·4 in Limerick to 18·5 in Newry. The death-rate caused by the seven principal zymotics was alarmingly high in Derry (14·3 per 1,000), Limerick (7·7), and Waterford (7·5). The mortality was at the rate of 22·6 in twenty-eight large English towns (including London, in which it was 21·6), 21·7 in Edinburgh, and 27·0 in Glasgow. As regards Dublin, if we deduct the deaths (23 in number) of persons admitted into public institutions from localities outside the registration district, the death-rate is 26·5, while that of the portion of the district which is situated within the municipal boundary is as high as 29·4.

Acute febrile zymotics caused 88 deaths in Dublin, compared with a ten-years' average of 118·3 deaths in the corresponding period, and with 107 in the previous four weeks. The 88 deaths included 37 from scarlet fever—a decrease of 10 compared with the preceding period of four

weeks—13 from whooping-cough, 12 from fevers, and 12 from diarrhoeal affections. A lull in the mortality from scarlet fever is thus apparent, but the type of the disease remains severe, and many cases complicated with renal and pulmonary or glandular affections are under observation in the city hospitals. Of the 12 deaths referred to "fever," 5 were returned as caused by typhus and 7 as caused by typhoid. As usual, age exercised a pronounced influence on the mortality from the zymotic diseases—thus, 17 of the 37 victims of scarlet fever were children under five years of age, including one infant of less than twelve months; all the 13 victims of whooping-cough were under five, and 3 of them were not a year old; and 5 of the 12 victims of the diarrhoeal diseases were under five, including three infants of less than one year. Measles was the reputed cause of death in three cases.

Scarlet fever is still epidemic in many parts of Ireland. The deaths fell from 29 to 18 in Belfast, but rose in Limerick from 3 to 9, and in Londonderry from 15 to 25. This last number represents an alarming mortality from the disease, and explains the excessive death-rate from zymotics (14·3) in the "maiden city." Whooping-cough also shows a widespread prevalence and fatality. Measles caused 9 deaths in Cork. The diarrhoeal deaths in all the towns fell to 33 from 62 and 90 respectively in the two preceding periods.

In the Dublin registration district 668 births and 735 deaths were placed on record—the corresponding figures in the previous four weeks were 722 births and 685 deaths. The births of 346 boys and of 322 girls were registered. The deaths of infants under one year old fell from 151 in the preceding period to 137, whereas those of persons aged sixty and upwards rose from 140 to 178.

Phthisis pulmonalis was credited with 173 deaths in the eight selected towns, compared with 170 deaths in the previous period—the increased fatality of this disease was therefore but slight, considering the advanced season.

Respiratory diseases claimed 165 victims in Dublin, against 98 in the four weeks ending November 3, and with a ten-years' average—in the corresponding period—of 168·5. The deaths include 110 from bronchitis (average = 116·3) and 29 from pneumonia (average = 26·1). Of the 110 persons who succumbed to bronchitis, 36 were aged sixty years or upwards.

The mean temperature of the four weeks was 42·8° in Dublin, 41·8° in Belfast, 46·5° at Roche's Point, Co. Cork, 42·5° at Greenwich, and 40·9° in Edinburgh. At Glasgow it was 40·3° in the first three weeks of the period.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.,  
Long. 6° 15' W., for the Month of November, 1883.*

Mean Height of Barometer,	-	-	-	29·747 inches.
Maximal Height of Barometer (at 9 p.m. of 30th),	-	-	-	30·354 „
Minimal Height of Barometer (at 9 a.m. of 25th),	-	-	-	28·730 „
Mean Dry-bulb Temperature,	-	-	-	43·4°.
Mean Wet-bulb Temperature,	-	-	-	41·5°.
Mean Dew-point Temperature,	-	-	-	39·2°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·244 inch.
Mean Humidity,	-	-	-	85·7 per cent.
Highest Temperature in Shade (on 28th),	-	-	-	58·7°.
Lowest Temperature in Shade (on 15th),	-	-	-	29·4°.
Lowest Temperature on Grass (Radiation) (on 15th),	-	-	-	23·3°.
Mean Amount of Cloud,	-	-	-	54·8 per cent.
Rainfall (on 19 days),	-	-	-	3·074 inches.
Greatest Daily Rainfall (on 5th),	-	-	-	·875 inch.
General Directions of Wind,	-	-	-	W., S.W.

*Remarks.*

A very unsettled, rather cold month, notwithstanding the occurrence of many bright, sunny days. The mean temperature was, it is true, only slightly below the average of the previous eighteen years (43·8°), but this was owing in great measure to a remarkable excess of temperature from the 27th to the 30th, and to the absence of any extreme cold. The rainfall was decidedly in excess (3·074 inches, compared with an eighteen-years' average of 2·319 inches), and the rainy days were 19, compared with a similar average of 16·8. A noteworthy feature of the month was the unwonted splendour of the dawn and sunset and of the twilight "after-glow" on several occasions during the last week. This was probably caused by refraction of the sun's rays by air-strata of different densities, or by ice-prisms floating at an unusual height and indicating great rarefaction of the atmosphere, or by volcanic dust.

During the first three days the barometer was uniformly high, and mild, hazy, quiet weather prevailed. By 8 a.m. of the 4th the centre of a deep depression had advanced to the Shetlands, where the barometer was down to 29·00 inches, and strong S.W. winds or gales were blowing. Next morning the barometric reading at Sumburgh Head was as low as 28·80 inches, while the mercury stood above 30 inches in the S. of France. During the day a new area of low pressure passed quickly eastwards across Ireland, causing the greatest daily rainfall of the month in Dublin—viz., ·875 inch. At this time, fair, frosty weather was reported from Scotland, and temperature was high in France and the

S. of England. A series of subsidiary depressions followed, which were accompanied with cold, showery weather. On the 12th and 14th extreme differences of temperature were observed both in England and in Ireland; at 8 a.m. of the 12th the thermometer marked  $22^{\circ}$  at Loughborough, in Leicester, and  $53^{\circ}$  in the Scilly Islands—a difference of  $31^{\circ}$ ; and at 8 a.m. of the 14th the readings were,  $50^{\circ}$  at Roche's Point, Co. Cork, and  $28^{\circ}$  at Parsonstown. On this day hoarfrost lay on the grass all day in Dublin, and after nightfall there was a thick hoarfrost. Next evening a dense vapour fog formed, and heavy rain fell, ushering in a temporary increase of temperature. An exceedingly unsettled period followed, owing to the persistence of a wide area of low pressure over the Atlantic, between the British Isles and Iceland, while subsidiary depressions passed quickly eastwards across Western Europe. Strong, squally winds or gales from S.W. to W. or N.W. prevailed, and were accompanied by showers of cold rain, hail, and sleet, and in many instances by thunder and lightning. Temperature remained low until Saturday, the 24th, when a very deep depression advanced to the Hebrides, causing the wind to back to S.W. and S. At 8 a.m. next morning the barometer read 28.46 inches at Stornoway, but 30.13 inches at Toulon. The day was fine in Dublin, but strong S.W. winds and gales prevailed in many places. Both before and after sunset a remarkable play of exquisite colours was noticed in the sky. After the sun had set, a circle of delicate mauve and grey was observed to N.E. Some time later the S.W. began to glow with a pale green light, above which arcs of yellow, gold, orange, red, and mauve spanned the sky. As the sun sank still further below the horizon the colours changed, leaving the sky of an intensely deep cobalt blue, above a line of glowing red, which did not entirely fade away until more than an hour and a half after sunset. The cause of this phenomenon was probably the presence of frozen aqueous vapour at an usual height in the atmosphere. After dark lightning was seen on the S.E. horizon. On several days subsequently the dawn-tints and the "after-glow" of sunset were singularly beautiful, and even in the middle of the day delicate mauve-tints were at times observed in lofty cirri and cirro-strati. In the course of the night of the 27th the thermometer rose in Dublin to  $57.4^{\circ}$ , and next day to  $58.7^{\circ}$ . At this time an area of high pressure advanced from the Continent, and under its influence the barometer rose to 30.354 inches at 9 p.m. of the 30th.

In Dublin lightning was seen on the 25th. Solar halos appeared on the 5th and 23rd. Hail and sleet fell on the 19th and 20th. The atmosphere was foggy on the 1st, 7th, 11th, 12th, 13th, 14th, and 15th.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### DIABETES AND RETRACTION OF THE PALMAR APONEUROSIS.

M. ALBERT CAYALA calls attention, in the *Gaz. Hebdom.* (Nov. 23, 1883, p. 770), to the coincident occurrence of these affections in the same subject. He has been able to collect seven observations where this coexistence has been determined. The first case is that of a French physician, in practice at New York, a sufferer for several years from diabetes mellitus of nervous origin, but now in a very satisfactory general state of health. This gentleman's attention was drawn some two years ago to the condition of the palms of his hands. They gave a peculiarly dry sensation to the touch; the ring and middle fingers were slightly flexed, and some nodosities running in the direction of these fingers could be felt in the palms. The same physician affirms besides that he has very often met with a similar alteration in numerous diabetics, whom he has seen at New York, and he thought he had remarked that the affection was even more frequent still among patients affected with diabetes insipidus. M. Cayala suggests that this palmar lesion may be looked upon as a trophic disturbance, similar to other manifestations of the same kind, so frequent in diabetes. On the other hand, retraction of the palmar aponeurosis is very often only one of the forms of rheumatism; and in this connexion its coincidence with so obscure a disease as diabetes is interesting from an ætiological point of view.

### A NEW ANÆSTHETIC MIXTURE.

DR. BYRD (*St. Louis Med. and Surg. Jour.*, Nov., 1883, p. 403) strongly recommends the trial of an anæsthetic mixture, which, he states, he has used in 78 operations—among them ovariectomy, amputations, and many other capital operations—with great satisfaction to himself and patients. Since killing a patient, several years ago, with chloroform he did not like it as an anæsthetic; ether was disagreeable to a great many people, and was dangerous to use at night; and bromide of ethyl caused such deep congestion and raving delirium, and had been attended with such a sad result in the hands of Dr. J. Marion Sims, that he was afraid of it. The very fact of bromide of ethyl causing such deep redness of the face, and chloroform causing such a pallor, decided him to combine them. This he did, first using equal parts, but he found that mixture contained too much bromide of ethyl. At length he found that, by measure, ethyl bromide, 1 part; chloroform, 3 parts; and alcohol, 4 parts, are the

proper proportions. He lets the patient breathe for a minute or so through the inhaler, with none of the mixture in it, to accustom him to the instrument; then he pours a drachm of the fluid upon the sponge in the inhaler, and allows him to breathe through it with the stopper out, after which he replaces the stopper, and lets the patient inhale full strength. Generally in five minutes he is fully anæsthetised, when the stopper may be taken out, to permit a greater admixture of air, and replaced as the judgment of the administrator may dictate. In the 78 operations but two of the patients vomited, and one of them had eaten a hearty meal but half an hour before the administration of the anæsthetic, and the other was a patient very subject to hysterical vomiting. There were dangerous symptoms in but one case, and those were caused by the administrator neglecting his business to watch the operation; elevating the feet soon corrected all trouble. If an operation is done under its effects at the physician's office, the patient will be apt to be able to leave the room without assistance in from five to fifteen minutes. He has used it with a simple napkin. The 78 operations required less than three pounds of the mixture, though some of the patients were under its influence for over an hour. A drachm is generally enough for a short operation. He advises that the patient be allowed to get fully under the influence of the anæsthetic before commencing an operation, so as to obviate, as much as possible, any shock that would occur from the patient's consciousness of what was going on.

#### ACUTE AORTITIS.

ACCORDING to M. Peter, the distinguished Physician of La Charité, who has recently published a treatise on the "Diseases of the Heart and of the Arch of the Aorta," the principal elements in the diagnosis of acute aortitis are:—An agonising pain at the level of the preaortic region; a burning sensation, sometimes excruciating; and a dyspnœa, which is never wanting, and which is especially characteristic, because on auscultation of the respiratory organs nothing can be discovered to account for it.—*Gaz. Méd. de Paris*, 27th Oct., 1883.

#### SUBNITRATE OF BISMUTH AS A DRESSING IN OPERATIONS FOR CICATRICIAL CONTRACTION.

At a meeting of the New York Medical and Surgical Society, held October 13th, 1883, Dr. Alfred C. Post mentioned the case of a man brought to the Presbyterian Hospital, with the left arm bound firmly across the chest by cicatricial bands following a burn which had occurred some months before. Fourteen parallel incisions, fifteen to twenty ctm. in length, were made through the cicatricial tissue, after which the arm could be lifted from the side to a little above a right angle. The line of the incisions was filled with subnitrate of bismuth, sprinkled on by

means of a pepper-box. The powder adhered to the parts and formed a sort of scab. At each fresh dressing another quantity was applied. Exuberant granulations were thus kept down, while scarcely any inflammation took place, and but a very small amount of suppuration. The wounds healed in from four to six weeks. He had since used this dressing in a number of cases, and with greater satisfaction than any other application. He had also used it in the case of granulating surfaces following burns, and had found that it diminished the amount of granulations, the contraction of which, when they were allowed to develop, was the chief source of deformity. In neither children nor adults had the dressing caused the slightest toxic effect.—*New York Medical Journal*, Nov. 10th, 1883.

#### TREATMENT OF CHRONIC ADENITIS.

THE following formulæ are taken from the *Jour. de Méd. de Paris*, of 24th Nov., 1883:—1. Lard, 30 grammes (say  $\frac{3}{4}$  i.); ammonium chloride, 5 grammes ( $\frac{3}{4}$  ijs.); and camphor, 2 grammes (3 ss.). Mix. To be applied night and morning. 2. Potassium iodide, 1 gramme (gr. 15); distilled water, 5 grammes (3 iss.); extract of hemlock, 2 grammes (3 ss.); lard, or vaseline, 30 grammes ( $\frac{3}{4}$  i.) Mix. 3. Calomel and acetate of lead, of each 3 grammes (gr. 48); lard, 20 grammes (3 v.); camphor, 5 decigrammes (gr. 8). Mix.

#### THE PICRIC ACID TEST FOR ALBUMEN.

DRS. CHAS. A. COOKE and RALPH B. WATKINS, resident physicians at Bay View Asylum, Baltimore, have made some observations on picric acid as a test for albumen. They found that in malarial cases in which quinine and cinchonidine were being used in large doses, these alkaloids were excreted in the urine, and gave, with picric acid, a reaction simulating albumen. Solutions of the alkaloids were found to give similar precipitates.—*Medical News*, October 27th, 1883, and *The Polyclinic*.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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FEBRUARY 1, 1884.

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### PART I.

#### ORIGINAL COMMUNICATIONS.

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ART. VI.—*On the Radical Cure of Hernia by Peritoneal and Intercolumnar Suture.\** By WILLIAM STOKES, Professor of Surgery, Royal College of Surgeons; Surgeon to Richmond Surgical Hospital.

It is obviously unnecessary to dwell on the great desirability of determining a safe and efficient means by which permanent relief from the inconvenience and dangers of hernia can be obtained. To devise such has been a problem that at various times has much exercised the surgical mind from a remote period of antiquity down to the present time. Though Listerism in this, as in so many other departments in the field of operative surgery, has aided materially in advancing our knowledge as to how to deal with this condition in a more radical and effective way than surgeons of the pre-antiseptic era felt justified in doing—notably by disarming to a great extent what has been not inaptly termed the surgical “bogies” of our predecessors—the peritoneum—still we cannot altogether say we have yet definitely arrived at the wished-for goal, but that we are within measurable distance of it cannot, I think, be denied.

In reference to the subject of radical cure for hernia it is curious, and, in truth, instructive to note in how short a time the pendulum of surgical opinion has swung from the side of scepticism and hostility to that of unwavering belief and warm advocacy. For example, on consulting several recently-published systematic

\* Read before the Surgical Section of the Academy of Medicine in Ireland, Friday, January 11, 1884.

treatises on surgical principles and practice—notably those of Holmes, Agnew, Bryant, Erichsen, and others, in reference to this subject—one cannot but be struck with either the violent condemnation, or practical ignoring of such procedures altogether, that is to be found in these works. Mr. Agnew observes that “after a careful review of the various operations proposed and practised for the radical cure of hernia, not one can be said to be satisfactory; and it is a question of grave doubt whether, in the present state of our knowledge of the subject, the surgeon is justified in resorting to any other treatment than that of a properly-adjusted truss.”\* Mr. Holmes remarks that of the many operations performed, “it may be said of all of them, even those most recently devised and most carefully thought over, that they usually fail in their object unless assisted by the pressure of a truss—that is to say, that they are not really ‘radical cures,’ as they are generally called” (“Treatise on Surgery,” 1882, p. 635). In the other works I have mentioned, with the exception of Wutzer’s and Wood’s operations, to both of which exception is taken, there is little said either of praise or disparagement. The eminent American author, above alluded to, does not hesitate to express the strongest disapproval, and speaks of some of the methods for the cure of hernia as being “barbarous and repulsive,” among which I may mention excision of the hernial sac occupies a foremost place. On the other hand, we must remember that authorities of equal trustworthiness—Lister, Buchanan, Annandale, Banks, Alexander, Wutzer, Wood, and others—hold diametrically opposite views—views which would tend to show that the group of procedures to which the comprehensive but somewhat vague term of “operations by dissection” has been given, have been attended with results which should make us hopeful and confident of such operations being ultimately recognised as not only justifiable but essential in the surgical treatment of rupture, whether it be congenital or acquired, reducible, incarcerated or strangulated.

The object of the various operations hitherto proposed and advocated is, in fact, to imitate what Nature does when she effects a cure unaided by surgical art—viz., obliteration of the neck of the sac, combined with approximation and union of the tendinous structures about the hernial passages. This is the principle embodied in the invagination operation of Wutzer, in the ingenious but complicated method of Wood, in the transplantation

\* Principles and Practice of Surgery. By D. H. Agnew. Vol. I., p. 463.

method of Dzondi, in the treatment of local irritation combined with pressure by the method of Belmas, of irritation in the sac by means of goldbeaters' skin and bits of gelatine, by injection of iodine (Pancoast), by scarification (Velpeau), by the seton (Riggs), and lastly, by the so-called method by "dissection," which has the great advantage of enabling the surgeon to deal directly, not alone with the sac, but also with the tendinous structures of the hernial passages.

Of the operations performed on the sac, several have been mentioned by Professor Annandale and others. Among these are:—

- I. The ligature of the neck of the sac alone.
- II. The ligature of the neck of the sac, and invagination of the ligatured sac into the abdominal cavity.
- III. The ligature of the neck of the sac, and excision of the sac below the ligature.
- IV. The ligature of the neck of the sac with excision of the sac, and stitching together the margins of the abdominal opening (Annandale).
- V. Ligature of the neck of the sac close to the internal ring, so as to make the peritoneum flush over the inner opening (Alexander).
- VI. Division of the sac into two halves, except at back where it adheres to the cord, one-half folded down over the testicle, the other rolled into a sort of plug, which was pushed into the internal abdominal ring (Buchanan).
- VII. Closure of the canal and pillars of the ring by a subcutaneous cross-suture (Fitzgerald).

It will be observed that in the first five of these operations the closure of the neck of the sac is brought about by the application of a ligature, and that in three of them excision of the sac is a prominent feature of the operation. Let us consider what this necessitates, and whether the same result as regards the hernia may not be obtained by simpler means, and means less likely to be attended with serious local and constitutional consequences. It necessitates a tedious and difficult dissection; for everyone conversant with hernia knows that, as a rule, the detachment of the sac is much easier in theory than in practice, and that to accomplish it a great deal of what Mr. Mitchell Banks, in somewhat odd but expressive language, terms "mauling," is required. Though I should be sorry to apply to this and to excision of the sac such forcible epithets as "repulsive" and "barbarous," still it must, I think, be considered unsurgical, for the simple reason that it is

unnecessary, and may be fraught with much secondary local trouble, and possibly constitutional peril.

The great amount of disturbance of the parts consequent on making a sort of artificial tunica vaginalis, as in the operation of Professor Buchanan, and the danger of making undue pressure on the cord in the operation of Dr. Fitzgerald, would make me hesitate to adopt either method.

The plan which my colleagues and I in the Richmond Hospital, where such exceptionally large numbers of ruptured persons are inspected at the monthly distribution of trusses, have of late adopted in suitable cases, is not the application of a ligature *en masse* round the neck of the sac, or this procedure coupled with excision of the sac below the ligature, but, I believe, a simpler and, at all events, equally efficacious procedure. It consists in the insertion through the opened neck of the sac, and close up to the external abdominal ring, of a deeply-inserted carbolised catgut suture or sutures, according to the size, width, and depth of the neck; and this is followed by the approximation or closure of the canal and pillars of the ring by the insertion of two or more sutures of a stronger and more durable material, such as chromicised catgut, carbolised silk, or silver wire. It is, in fact, a dual system of suture, one being peritoneal and the other intercolumnar. I believe that in the great majority of cases this procedure will be found to be attended with satisfactory results, always provided that rigid Listerian antiseptic precautions are taken during and subsequent to the operation.

I may now state, and I shall do so with all brevity, the particulars of a few cases of hernia, taken among others from my case-book, which will fairly illustrate what I have just observed :—

CASE I.—A female, aged forty, was admitted into the Richmond Surgical Hospital, under my care, on July 19, 1882, suffering from strangulated inguino-labial hernia of unusually large dimensions. Previously the tumour had frequently appeared, but there had never been any difficulty in its reduction. Four days before her admission into hospital the hernia had come down, and became very painful. She made the usual attempts to reduce it, but without success. On the following evening she came to hospital, when the resident surgeon succeeded in reducing it, and applied a compress and spica bandage to prevent its recurrence. She then, contrary to advice given, left the hospital, and on the day following the

tumour reappeared, but no surgical aid was sought for until three days had elapsed, when she was admitted again into the hospital with distinct evidence of strangulation. The tumour was much larger than when she first sought relief, and was much more tense and painful. All the usual symptoms and signs of strangulation were present, and in a marked degree. Taxis was carefully employed while the patient was in, and after she was taken out of a warm bath; also when she was under the influence of an anæsthetic. But, all attempts failing, I was then sent for, and at once determined upon performing herniotomy. On opening the sac, and exposing the protruding intestine, I found it of a dark brown, chocolate colour—so discoloured, in truth, that after division of the stricture I had some hesitation in reducing it. However, I did so, and then introduced two fine carbolised catgut sutures through the neck of the sac, one a deep one and the other superficial, uniting its divided edges. Two other sutures of strong, thick carbolised catgut were inserted by means of a nævus needle through the pillars of the ring, on securing which the opening, save at its most inferior and internal part, was found to be effectually closed. The edges of the wound were thus united by several points of interrupted suture, and a small drainage-tube inserted. The strictest antiseptic precautions were taken throughout. It is unnecessary to give an account of the daily progress to recovery of the patient. With the exception of the formation of an abscess in the labium nothing untoward occurred. The rupture never reappeared, and when she coughed there was little or no impulse communicated. On August 2nd she left hospital and returned home, and I had frequently an opportunity of seeing the patient subsequently, examining the situation of the hernia, and satisfying myself of its non-recurrence.

CASE II.—D. M., aged forty-four, a house-painter by occupation, a strongly-built man of medium height, was admitted into the Richmond Surgical Hospital, under my care, on November 19, 1882, suffering from strangulated inguinal hernia on the left side. By a curious coincidence he had suffered from strangulated hernia five years previously on the right side, and underwent an operation for its relief at the hands of Mr. Bickersteth, the eminent surgeon of Liverpool.

On examination I found a large inguinal hernia on the left side, the abdomen somewhat tympanitic, and the tumour painful. The



strangulation was, according to the patient's account, apparently of two days' duration. He suffered much from hiccough and vomiting, and the other usual signs and symptoms of strangulated intestine. The tumour was very hard, and its integumental covering tense—so much so, that from the first I did not anticipate that taxis, or anything short of herniotomy, would be likely to relieve the patient. Taxis was tried, but, as I expected, proved unavailing. I accordingly cut down on the tumour, and on opening the sac introduced my finger and found that the stricture was not an exceptionally tight one, but, owing to the enormous coil of intestines which had escaped, reduction was found to be impossible without division of the stricture, which was done by Dr. Corley's hernia knife. Even after this reduction was very difficult, and only effected after a very tedious and protracted effort. There was not much intestinal congestion or inflammation, which was remarkable considering the acute symptoms of strangulation which were present. I then inserted two sutures, as in the former case, through the neck of the sac, and two more of strong chromic catgut through the pillars of the ring, and then closed the wound.

The result of this case was as satisfactory as the former. Some months after the operation I saw the patient, who was so pleased with the result that he urged me very strongly to operate on the other side in order that he might be able to dispense with the truss which he was obliged to wear to keep up the hernia there. I did not, however, at the time see my way to acceding to this request.

This case, I may mention, I exhibited here last session.

The importance of using a more durable material than catgut, whether carbolised or chromicised, for stitching the pillars of the ring, is well illustrated in the following case of congenital inguinal hernia that I operated on last August :—

CASE III.—William W., aged three, a well-nourished male child, was admitted into the Richmond Surgical Hospital, under my care, on August 12, 1883, on account of an exceptionally large congenital inguino-scrotal hernia. This had of late greatly increased in size, and was quite as large as a full-sized Jersey pear. No difficulty attended its reduction, and when this was accomplished the external abdominal ring was found to be so large as to easily admit the points of two fingers. No pad or bandage could retain it for more than a few hours. On August 15 I performed an operation with the view of obliterating the neck of the sac and

closing the ring. Having reduced the hernia, I made a free integumental incision, commencing from without at a point about a quarter of an inch external to the internal ring, and carrying it downwards and inwards for a distance of fully two inches. The tissues were then carefully divided on a Fergusson's director, as in the ordinary operation for strangulated hernia, down to the sac. This was opened immediately below the external ring, and the divided edges held well forwards with catch forceps to enable two deep sutures to be inserted, which kept the opposing inner surfaces of the sac in opposition, and in that way the neck was closed. I then approximated the edges of the external ring by a strong, chromicised catgut suture, introduced through the external pillar and brought across the ring and through the internal pillar at some distance from its edge. Superficial interrupted sutures were then inserted and the wound dressed with careful antiseptic precautions. After the operation the case progressed satisfactorily, the wound healed readily, and I then was pleased to find that the parts were so matted together and the ring closed so as to effectually prevent the descent of the hernia. The patient was kept, by my directions, for fully a month after the operation in order that I might observe if it was likely to be a permanent success, and things remaining in the same satisfactory condition, I allowed the patient to be taken home. Three months subsequently I was much disappointed at learning from the mother of my patient that the hernia had re-appeared, and had done so suddenly the day previously while straining at stool. Subsequently I saw the patient, and finding the mother's statement was substantially correct, urged on her the desirability of having the operation repeated, but she declined to accede to this proposal. Should she, however, eventually alter her mind in reference to this, I will, in the first place, use chromicised gut for stitching the neck of the sac, and close the canal and external ring by silver wire sutures. Had I done so in the first instance I believe the cure would, in every sense of the word, have been a radical one.

The result in the following case was more satisfactory :—

CASE IV.—Mary B., aged forty-eight, a delicate-looking woman, was admitted into the Richmond Surgical Hospital on the 21st of last May, suffering from a strangulated inguino-labial hernia of exceptionally large size. It was fully the size of a cocoa-nut. It had recently, she stated, greatly increased in size, having been, a

short time previously to her admission into hospital, only about the size of an egg. She complained greatly of pain, which she referred mainly to the region of the umbilicus; also of nausea and vomiting, of which she had had several attacks shortly before coming into hospital. The tumour was very hard and painful. On this occasion I succeeded in reducing the hernia after the use of warm baths and careful taxis. A day or two after the patient left the hospital without any authorisation. On the 26th of May, however, she returned to hospital suffering more acutely from strangulation than on the former occasion. Taxis, employed as before while the patient was in a hot bath, and again after she was taken out of it, did not succeed; nor did any better result attend the operation when tried subsequently by Dr. Corley and myself, the patient being under the influence of ether. I accordingly performed an operation similar in its details to those already described—viz., exposure and opening of the sac, division of the stricture, reduction of the protruding intestine, stitching the neck of the sac, the insertion of intercolumnar sutures (in this case two being employed), and finally closing the skin wound with numerous points of interrupted suture, a small drainage-tube being inserted and left in the lower angle of the wound. The healing of the wound pursued a perfectly aseptic course. On June 3rd the patient returned home, and since then has been frequently inspected, and no evidence of any return of the rupture observed.

Although these cases are few in number and insufficient to enable me to speak dogmatically of the radical cure of hernia by an operation which may be termed peritoneal and intercolumnar suture—a title suggested to me by my colleague, Dr. T. Stoker—still, as far as the cases go, they are of much interest and surgical importance, especially taken with others operated on in a somewhat similar way by my colleagues; and I think it is not too much to say they should make us, if not confident, at least hopeful that we are working in the right path towards determining the treatment that is most likely to prove efficient in the permanent cure of one of the most serious ills to which man is liable—one which in youth and early manhood renders the enjoyment of athletic exercises unsafe, prevents the sufferer entering most branches of the public service, and at times renders his life utterly miserable, from the lasting annoyance of a truss, and the constant dread of strangulation.

ART. VII.—*The Radical Cure of Inguinal Hernia.*\* By JOHN K. BARTON, F.R.C.S.; Ex-President of the Royal College of Surgeons; Surgeon to the Adelaide Hospital, &c.

THE great advantages to be obtained in cases of hernia, by a radical cure, over the palliative treatment by a truss, must have forcibly presented themselves to the minds of surgeons since the time when this disease was first understood; but, although various operations were devised and performed by Girdy, Sigorini, and others, it was not until Wutzer of Bonn, in 1838, published a description of his operation that the attention of surgeons generally was directed to this subject.

The verdict which time has pronounced upon Wutzer's operation is unfavourable, and the same may be said of Agnew's modification of it, which may account for the opinion expressed by that distinguished author and surgeon, who, after he has described all the various operations yet practised for the radical cure of hernia, writes thus:—"Not one can be said to be satisfactory; and it is a question admitting of grave doubt whether, in the present state of our knowledge on the subject, the surgeon is justified in resorting to any other treatment than that by a properly-adjusted truss." Professor Wood, of King's College, London, has shown by the success which has followed his method of operating in his own hands, that this in his case, at all events, is not true, as his percentage of deaths, in a very large number of cases, is between one and two per cent., while he reports three-fourths of his cases as permanently cured. He informs us that constant application is made to him by persons seeking employment in the public service, and by others who purpose proceeding to India or elsewhere, to have his operation performed, and that he now performs it for all such—if they are in good general health—without fear of ill effect and with confidence as to the result. Wood's operation is a clever combination of the plan of invagination with direct closure of the internal ring, and it is chiefly upon this latter that its success depends. If any part of the inguinal canal be left open, the hernia will descend, so far as it is open, through it, and when it has done so, it will form the thin edge of a wedge, which will, in time, press down and overcome any obstacle which invaginated fascia or skin may present, and thus reproduce the hernial protrusion; but, if the

\* Read before the Surgical Section of the Academy of Medicine in Ireland, Friday, January 11, 1884.

internal ring be completely and permanently closed, this cannot take place. If this reasoning be true, it follows that Wood's operation may, with advantage, be simplified by omitting the invagination part and taking care that the closure of the ring be really accomplished. This, by his subcutaneous method of operating, cannot be done satisfactorily, at least by hands less practised than his own, and therefore, if the radical cure of inguinal hernia is to be practised by surgeons everywhere, it becomes necessary to institute for Wood's method of operating one at once more simple and more sure. This is found in the *direct method*. Prof. Gross of Philadelphia thus describes this operation as practised by him:—"The most rational radical treatment of hernia is undoubtedly the direct, as it may be termed, consisting in cutting down upon the parts, refreshing the edges of the opening of descent, and approximating them with wire sutures, retained either permanently or until complete consolidation has been effected. The operation, it will be perceived, is founded upon the same principle as that for hare-lip and cleft palate, and will, if properly executed, be much more likely to answer the purpose than the process of invagination, now so much in vogue, and for the most part so worthless."\*

Professor Gross had, when writing this, performed this operation twice, and with encouraging success. The special features of this operation are:—First, it is open; the surgeon sees exactly what he is doing, and can, with certainty and precision, draw the pillars of the ring into close contact. Secondly, it closes the opening through which the hernia descends at its abdominal aperture, and not in the canal. Both of these are important points which recommend the operation as one likely to fulfil the requirements of the case; and if we can add from experience, that it is at once safe and permanently successful, then we have all we can desire in the way of an operation for the radical cure of inguinal hernia.

I now relate to the Academy the particulars of three cases operated upon by me by this method, with the difference from that described by Professor Gross, that in no case did I refresh the edges of the ring, but simply drew them into close contact by strong silver wire, which in one case only was removed, and may, I believe as a rule, be left in with decided advantage:—

CASE I.—A fine little boy, aged between two and three years, was brought to me in April, 1882, from Newtownbutler, Co. Fermanagh, with

\* Gross, Surgery. Vol. XVII., p. 513.

a note from Dr. Fitzgerald, asking me to see if anything could be done for a large inguinal hernia on the right side, which he had failed to keep up by any means, having in vain tried to do so with a variety of trusses.

Upon examination I found a large scrotal hernia, nearly the size of the child's head, on the right side; it could be reduced after some manipulation, but the ring was so wide that it was impossible to keep it up when the child cried or coughed; trusses had been abandoned as useless.

The child was a remarkably fine vigorous boy, one of twins; the birth was difficult and prolonged, and when, at last, this child was born, the nurse noticed the hernial protrusion; it had probably been produced during the birth.

Upon the 15th of April, 1882, a few days after his admission, the note taken by the dresser states that when the child was crying the hernia descended almost to his knees.

Upon the 18th of April I performed the operation with every Listerian precaution. An incision, two inches in length, was made obliquely from above downwards and inwards, its upper extremity corresponding to the internal ring; the fascia was carefully divided upon a director, and when the internal ring was reached the index finger of the left hand was introduced into it, so as completely to prevent the descent of the hernia, and, at the same time, to regulate the next step, which was the introduction of the wire suture; and for the remainder of the operation the finger maintained this position. A curved needle, with the eye close to the point, was then passed through the inner pillar of the ring (care being taken not to introduce it too near its free edge), and, guided by the left forefinger, was safely carried across the ring and through the outer pillar from behind forwards; a strong silver wire was then passed through the eye, and the needle was withdrawn; thus the first wire stitch was introduced, and similarly a second—only two were placed in this case—the finger was then withdrawn, and the wire was tightened, drawing the sides of the ring into close contact. When firmly secured by twisting, the cut ends were carefully bent down so as to lie in the axis of the wound, and not project either forwards or backwards. Drainage was provided for by a few catgut threads, the wound was then closed, and dressed with protective and gauze; three drops of liq. opii sed. was administered, and the child removed to bed; the temperature was 100·5° in the evening.

19th.—Morning temperature, 99·8°; evening temperature, 100·4°.

20th.—Morning temperature, 99°; evening temperature, 100°. The wound dressed antiseptically; looked very well; bowels moved twice.

21st.—Morning temperature, 100·2°; evening temperature, 101°.

22nd.—Wound dressed; a little pus was found; scrotum was swollen on right side; morning temperature, 100·2°; evening temperature, 100·2°.

25th.—Morning temperature, 98·6°; wound rather open.

The wound slowly granulated, and on the 15th of May had almost quite healed, but would not completely heal. Evidently the wire was keeping it open, but I refrained from any interference with the wire. The child was allowed up on May 26th, when the hernia came down a little. He was then confined to bed, and a month passed, during which, although he was always jumping about, and continually shouting, and frequently crying, no protrusion took place. Early in July the wound became inflamed, and opened, and I then thought it best to remove one wire stitch, the twisted end of which was found projecting in the wound. After this the wound healed soundly. I then had a light truss made upon the plan of Lestrangle's, and allowed the child up. No further protrusion took place, and he left hospital and returned to the country, where, as I was informed, he remained well, and able to wear the truss. Quite recently, however, I have had a letter from Dr. Fitzgerald, in which he tells me that the operation has not proved a success, as the hernia has returned, and now descends into the scrotum, but whether it is capable of being held up by a truss or not he does not say.

CASE II.—Mr. K., aged twenty, a remarkably muscular and healthy young man, came to me in the month of July, 1883, stating that, being desirous of obtaining a commission in the army, he had prepared himself for the examination, but previous to his admission to which he was submitted to a physical examination, when a small hernia was discovered, of the existence of which he was ignorant before, and he was told he could not be received. He was informed, however, by Surgeon-General M'Kinnon, that if the hernia was radically cured he would pass him. Under these circumstances he applied to me, and I did not hesitate to recommend him to undergo the direct operation. The hernia being a small, reducible, left inguinal one, and the patient being in splendid health, and a teetotaler, the operation was performed upon the 31st of July last; two strong silver wire sutures were introduced. He suffered rather severe pain in the abdomen for two or three days, but his temperature did not rise above 99°; the pain was relieved by hot poultices externally, and half a grain of opium three times a day internally. The wound had completely healed on the 20th of August, after which he was allowed up with a light truss on.

I did not see the patient at this time, as I had left town for a holiday, but when I returned in September he called on me to say that a few days after I last saw him a slight protrusion had taken place below the situation of the sutures, and that whenever he took off the truss the hernia appeared there. Upon examination I found that it was so, and I con-

cluded that two stitches were insufficient in this case, and must be supplemented by another, or, perhaps, two more. The patient was anxious to have the operation completed as soon as possible—so on the 27th of September a second operation was performed; the lower wire, inserted at the first operation, was found and another put in close to it, and a second at a little distance further down. When these were tightened the opening was most securely closed, but the aperture left for the cord was so small that I feared some inconvenience might follow—but, anxious to secure the success of the operation, I left it as it was.

The case was throughout dressed with Listerian antiseptic dressings. A rather smart swelling of the testicle and scrotum followed the second operation, but in twenty-four hours this began to subside, and had disappeared in three days, after which he progressed steadily. On the 9th of October antiseptic dressings were laid aside—the wound being healed—except in two little spots about the size of a split pea, where a drop or two of pus formed daily. He was kept in bed for a month, then allowed up with a truss, which was gradually laid aside until he went up again for examination at Sandhurst, which he did in the beginning of last month (Dec., 1883). Surgeon-General M'Kinnon carefully examined him, and passed him, pronouncing the cure satisfactory, and expressing his opinion that the open or direct operation which had been performed was the right one in such cases.

**CASE III.**—T. B., three years old, was brought to the Adelaide Hospital on the 10th of December, 1883. I had seen him a few days previously at my own house, where his mother had brought him for my opinion regarding a large inguinal hernia on the right side. The history of the case was to the effect that when ten months old he fell out of his mother's bed, and shortly afterwards a swelling was noticed in his right groin, which was made worse by coughing and crying. This swelling steadily increased in size, but rapidly enlarged when the child took whooping cough. About six months ago, upon examination, an oblique inguinal hernia, reducible, and the size of an orange, was found on the right side. When the hernia was reduced, which was readily accomplished, the ring was easily felt, and admitted the tip of the index finger of the right hand. Various trusses had been tried in vain. The child frequently suffered sharp pain in the abdomen when the hernia was down.

Upon the following day, the 11th of December, I operated by the method already described, and closed the internal ring with two silver wire sutures—Listerian precautions being used, the wound being dressed with salicylic wool and carbolic gauze. The evening temperature was  $101.2^{\circ}$ , and the pulse 136, which was the highest point reached during the subsequent progress of the case. The wound did not unite by



first intention, but granulated, and now, just a month from the date of the operation, the members can judge of the amount of closure which has been effected, the child being in attendance for examination.<sup>a</sup>

The three cases now recorded show, in my opinion, that the direct operation for the radical cure of inguinal hernia is a safe one when due precautions are taken; further, that it is one easily performed; and finally, the failure of the first case proves to me that it is necessary in a bad case, and probably better, if not absolutely necessary, in all cases, that the wire sutures should be left in to form a permanent tie and firm barrier against the hernial protrusion. The main question as to the permanence of cure effected by this operation must be decided by time, and will be much facilitated by a full and faithful record of all cases, whatever the amount of success or failure which is attained, being given by all those who operate. This I will do, and, other members doing the same, we may hope in a short time to have in the Transactions of the Academy such a record as will decide the question as to whether we have or have not in the direct operation the true radical cure of inguinal hernia. In conclusion, I submit for your inspection a curved needle, by means of which I have found the introduction of the wire sutures much facilitated.

ART. VIII.—*The Climatic Treatment of Phthisis.*<sup>b</sup> By JAMES ALEX. LINDSAY, M.A., M.D.; Physician to the Ulster Hospital, Belfast; Assist.-Physician to the Belfast Royal Hospital.

MY only excuse for bringing so hackneyed a subject under notice is the fact that I have had a more extensive personal acquaintance with foreign sanatoria for phthisis than falls to the common lot. Circumstances have enabled me to travel widely, and amongst other places I have visited Southern France, Switzerland, Italy, Algeria, Cape Colony, Australia, New Zealand, and California—thus including all the most famous health-stations, with the exception of Egypt.

I am far from wishing to exaggerate the importance of the observations and experience of a single traveller, but I feel confident that some practical acquaintance with foreign lands is a very great advantage in selecting a suitable climate for any given case of disease. At the lowest estimate it clears one's mind of numerous

<sup>a</sup> January 25, 1884.—The wound has now perfectly healed, and the child is running about without any hernial protrusion, the ring being securely blocked.—J. K. B.

<sup>b</sup> Read before the Ulster Medical Society, Tuesday, December 11, 1883.

misapprehensions, makes one doubly receptive of genuine information, and enables the traveller to make due deductions from the roseate accounts so often furnished by interested persons. Only personal experience can thoroughly inform us on many points of secondary but still genuine importance regarding any locality—points, I mean, quite apart from considerations of climate. I refer to such questions as the facilities and expenses of travel, the hotel accommodation, the objects of interest to be met with, &c.—points of prime moment to many invalids.

Though the climatic treatment of phthisis has long enjoyed a wide popularity and an acknowledged efficacy, we are still by no means clear regarding the precise conditions of climate which are generally desirable. We know that certain climates are efficacious, but we are not quite certain on what that efficacy depends. The idea that the *dryness* of a climate is the essential feature is evidently an error, as cases of phthisis do almost equally well in the intensely dry climate of Upper Egypt, and in the intensely moist and humid atmosphere which prevails at sea. Nor can the *degree of heat or cold* of any climate be looked upon as the really important point, for phthisical patients flourish in the torrid heat of Australia and amid Alpine snow-fields. Then, again, *distance from or proximity to the sea* cannot be reckoned an indispensable factor, as phthisical patients do almost equally well at Algiers and at Cairo, at the littoral towns of the Riviera, and on the Darling Downs of New South Wales. Lastly, *elevation above the sea level* cannot be reckoned essential, since at present it would be difficult to affirm whether better results are attained at Davos or at Algiers, on the highlands of Colorado or on the sea-coast of California. If, then, neither the temperature of a climate, nor its dryness, nor its elevation above the sea level, nor its distance from the ocean, be essential, it becomes of importance to inquire whether any combination of these features is probably indispensable. Here we begin to see light. So far as I am aware no climate which is both damp and cold has proved useful in the treatment of phthisis. Damp climates succeed in some cases, cold climates in others; but climates which are both damp and cold appear to be uniformly injurious. Secondly, the *equability* of a climate is probably a point of the most vital importance. Phthisical patients are peculiarly sensitive to sudden variations of temperature—the most frequent cause of intercurrent attacks of bronchial catarrh and pleurisy which such patients have so much reason to dread. Thus the climates of Algiers, Egypt,

and Davos, are remarkably equable, while climates where phthisis is particularly prevalent are usually noted for sudden variations. The *purity of the air* has been much insisted upon by some authorities, and has even been regarded as the one essential condition. A pure atmosphere is no doubt very important; but I venture to think that no case of phthisis could prosper in any atmosphere, however pure, which was subject to sudden variations of temperature. In formulating anything like fixed principles we must not forget the part which individual idiosyncrasy probably plays, nor another fact more frequently overlooked—viz., that certain climates may furnish the desired change from certain other climates. Thus it is possible, and even probable, that two climates may bear such a correlation to each other that a patient removing from one to the other may thus obtain the exact change, climatic and hygienic, which his case demands.

Before deciding where to send his patient the medical practitioner has first to consider whether the patient is in a fit state to go abroad anywhere. This is often a most anxious and difficult problem, and one of the first importance. There may be noticed at the present day some faint signs of reaction against the practice of sending all phthisical cases indiscriminately abroad, and if this reaction merely tends to greater care and caution in the selection of cases, it will be an unmixed boon; but it would be a great misfortune if any prejudice were to arise against the climatic treatment of phthisis in general. In most cases the choice is practically between that and an expectant treatment which ends only too surely in death. By careful nursing and wise treatment at home, no doubt, the disease may for a time be kept at bay, but recovery is practically out of the question. It is a cruel thing to send a hopeless case abroad to linger out a miserable end, far from home and friends, amid strange faces and uncongenial surroundings, but it is a much more cruel thing to deprive a patient of even one chance in a hundred by dissuading him from a step on which he is bent, and which is to him full of hope.

In deciding the momentous question of sending a patient abroad, let me say, first of all, that the stage of the malady is not necessarily the first or even the chief consideration. This will sound startling only to those who have given little attention and study to the subject. Some of the most striking recoveries on record have been those of patients in whom the malady had progressed to the stage of cavity before a change of climate was sought, while on

the other hand there are many cases only in the first stage whom one would never dream of sending abroad; the high range of temperature, the rapid emaciation, and the feeble attempt on the part of nature at reaction—all showing the utter futility of the step. Not the stage, then, so much as the type of the malady, the family and personal history, the amount of reaction present, and the general constitutional conditions, must be our guide.

There are several cases where the climatic treatment is plainly inadmissible.

1. In acute tuberculosis. Here no treatment is of even temporary avail, and the rapid prostration of the patient makes a resort to travel quite out of the question.

2. During acute exacerbations of the chronic malady. Here the wise treatment is to avoid all causes of excitement and irritation, to soothe the patient, and to wait until the disease shall again resume its chronic character.

3. Where the patient's means are insufficient to enable him to travel with reasonable comfort, or where there is an idiosyncrasy which renders travel peculiarly distasteful and irritating.

The chief difficulty in the decision naturally arises with cases which lie upon the borderland. In an ordinary case of moderate severity, what are the leading indications? A distinguished physician of Belfast once told me that he made it a rule never to allow a phthisical patient to go abroad until the pulse and temperature had been for some time under 100. As a rough and ready rule this dictum has its attractions, and in all probability would be found to work fairly well in practice; but we need some more scientific basis for our opinion. I venture to formulate one or two principles:—

1. Let us ask the question—Has the disease been steadily progressive from the first, or has it shown signs of occasional remittance? Are periods of high pyrexia and severe constitutional disturbance succeeded by periods of comparative recovery, leading us to believe that the disease in the lung is for a time at least quiescent? These cases which approach the remittent type are, I think, peculiarly favourable for climatic treatment.

2. The milder the constitutional symptoms are in proportion to the local pulmonary mischief the more hopeful is the climatic treatment, and *vice versa*.

3. It is important to inquire whether resort has ever before been

had to travel, and with what results. Patients who are braced and stimulated by change of scene, and who possess much mental elasticity, are more likely to gain advantage than those who are depressed and disheartened by absence from home and the association of friends.

Having determined to send our patient abroad, the next question is the choice of a suitable resort; and the selection is becoming increasingly difficult. Our ancestors went to Torquay, Pau, Egypt, or Madeira, according to their inclination and the state of their finances. Now the whole world is laid under contribution. The Riviera, Davos, Algeria, Egypt, Cape Colony, Australia, Tasmania, New Zealand, California, Colorado, Minnesota, Florida, Bogota, Jamaica, Bermuda—all these have their advocates and their statistics of alleged successes.

To keep my paper within reasonable bounds I shall discuss four types only of sanatoria :—

- A. The ocean climate, met with in perfection on shipboard.
- B. The climate of the seashore—*e.g.*, Algiers, Cannes, &c.
- C. The climate of dry inland localities—*e.g.*, Cairo, inland Australia, &c.
- D. The climate of high altitudes—*e.g.*, Colorado and Davos.

A. The ocean climate, such as prevails on the high seas. This climate, of course, presents infinite varieties, according to latitude, but it has some constant features :—

- a.* It is remarkably equable. Sudden changes of temperature are rare at sea; and ordinary catarrhs and colds (so injurious to the phthisical patient) are practically unknown. It is a matter of common observation that on shipboard one can with impunity risk exposure to cold and wet which on land would entail an inevitable penalty.
- β.* The air possesses a perfect purity and an excess of ozone not to be enjoyed on land.
- γ.* The barometric pressure is almost invariably high.

It is obvious that we have here a set of conditions eminently favourable for the treatment of phthisis. When we also recollect that on shipboard, in the warm latitudes, patients can spend from 12 to 15 hours daily in the open air, that the stimulating sea air promotes appetite to such an extent that a rapid increase in weight is almost universal, and that there is an almost complete freedom from all kinds of worry and excitement, it is not surprising that

long sea voyages should enjoy a high reputation for the cure of pulmonary disease.

Theodore Williams states that in his wide experience of phthisis the best results of all have attended the trial of long sea voyages. My own experience—including four long voyages averaging about 12,000 miles each, and the observation of a very large number of phthisical patients—is highly favourable to this line of treatment. With few exceptions, the cases which I observed made progress on shipboard, gaining in strength, weight, and comfort, rarely suffering from sea-sickness, and even in the most advanced cases often making a wonderful temporary rally. The disadvantages of a long voyage are the exhausting heat of the Tropics, the monotony of occupation, society, and diet, the absence of privacy, and the scandalously small and uncomfortable sleeping cabins, which are still found even in the best lines.

As regards the particular class of cases most likely to be benefited by a long voyage, I am disposed to think that most patients who retain a fair amount of vigour are likely to gain by this line of treatment, but that it is peculiarly applicable to cases of hæmorrhagic phthisis. An attack of hæmorrhage is an event of extreme rarity on shipboard, whether the equability of the climate, the quiet mode of life, or the high barometric pressure deserves the credit for this exemption. It is a significant fact that, while patients suffering from hæmorrhagic phthisis enjoy an almost complete immunity from hæmorrhage while at sea, they seem peculiarly prone to an attack on landing after a long voyage. This is a sort of axiom among invalids on shipboard, and I have several times seen it exemplified. As regards the best voyage to choose, the only one which can be confidently recommended is that to Australia—all others being either too short or presenting some serious disadvantages. The advantages of the Australian voyage are—1st, length, the average duration being about 80 days by sail and about 45 days by steam; 2nd, a regular gradation of temperature, from the heat of tropical and subtropical latitudes to the bracing and refreshing coolness of the Southern Ocean.

B. The next type of climate favourable for consumptives is the warm marine climate, of which I shall take Algiers as the type, partly because it is a favourable specimen and partly because I have personal acquaintance with it.

The Algerian climate has been described as the best within the Mediterranean basin, and with that opinion my experience, so far

as it goes, decidedly agrees. During the winter months the weather resembles that of a genial English summer. Brilliant sunshine without excessive heat, an almost entire absence of frost and cold winds, great equability combined with pleasant variety—all these mark out Algiers as a delightful resort for consumptives. The mean temperature for the winter months averages from 60° to 64°, sudden changes are rare, and the diurnal range of temperature is so moderate that patients can go out with safety at all hours. The rainfall is considerable, but it comes in occasional deluges of great violence, and long periods of wet are almost unknown. That the climate of Algiers is infinitely superior to that of the Riviera cannot, I think, be doubted—free as it is from the morning frosts and the blighting *Mistral*, which occasionally make visitors to Cannes and Mentone wonder why they ever travelled so far from home to be nipped by unexpected frost and mocked by a brilliant sunshine which seems so strangely at variance with the piercing wind. The traveller who halts on the northern shore of the Mediterranean is still among the cold latitudes, still among the regions of winter cold, of snow and frost and rain. But let him cross the great sea—a passage of about 30 hours—and he feels at once that he has reached the region of eternal summer, where fruits and flowers flourish in subtropical luxuriance, and where the swarthy faces around him serve as a reminder that he has touched the verge of the Dark Continent.

The climate of Algiers is drier than that of most maritime localities—a circumstance which is, no doubt, due to the proximity of the great desert. It is almost quite free from cold winds, and the sirocco (which is such a scourge in summer) is almost unknown in the winter months. While in Algiers I had the novel and not unpleasant experience of being rocked by an earthquake, but this also is an event of great rarity. As illustrating the mildness of the winter climate of Algiers, I may mention that on Christmas Day I enjoyed a swim in the Bay of Algiers, and found the water pleasantly warm.

Apart from considerations of climate, Algiers presents many attractions. The situation of the town is remarkably picturesque, and the invalid need never tire of gazing from the elevation of one of the villas of Mustapha or the village d'Isly over the beautiful bay, studded with the sails of feluccas and backed by the imposing ramparts of the Djur-djura mountains.

Flowers and fruits grow in great luxuriance, and the variety and

excellent quality of fresh vegetables (which can be obtained all through the winter months) is a point of real importance to the invalid. One of the recollections which is likely to remain for ever impressed on the mind of the visitor to Algiers is the fact that he was there able to enjoy fresh green peas on Christmas Day.

If the tourist goes into one of the bazaars of Algiers and makes a small purchase he often receives as change an extraordinary medley of coins of different countries. This variety is typical of the remarkable mixture of races which one encounters in Algiers—Arabs, Kabyles, Moors, Negroes, Maltese, Frenchmen, Spaniards, Italians, Turks, Englishmen. I hardly know if even this enumeration exhausts the list. Thus, if the invalid has any taste for studies of race he has an unrivalled field open to him. Then again, if antiquarian studies interest him, Algeria has rare attractions. The country has had a stirring history, from the days of Carthage down through the times of the Vandals and Arabian Caliphs to the modern days of French dominion, and the antiquarian remains are numerous and extensive. Only those who have never wintered abroad will think that I am attaching undue importance to these points. Often the greatest trouble of the invalid is the lack of congenial occupation and the consequent *ennui*, and no wise adviser will send a patient to a health-resort which has only climate to commend it, and which is entirely destitute of objects of interest and attraction.

As regards the particular class of cases benefited by the Algerian climate I regret that I cannot lay down any fixed rules. A large proportion of cases certainly do well, but I am not aware that any marked preponderance of advantage can be claimed for any special type or stage of phthisis.

Australia has long had a great repute as a locality for consumptives, and many remarkable cures have attended the resort thither of patients from these islands. Nevertheless some authorities denounce Australia, and regard it as hurtful to the phthisical patient. The error lies in talking of Australia as a whole. One might as well talk of the climate of Europe as of the climate of Australia. In so vast a country the gradations and variations of climate are necessarily endless; and while some regions, such as the sea-coast especially near Melbourne and Sydney, are decidedly noxious to the consumptive, other regions, such as the Darling Downs of New South Wales and the vast plains in the interior of Queensland, possess an intensely dry, equable, inland climate, like



that of Upper Egypt, presenting an assemblage of conditions highly favourable for the successful treatment of phthisis.

The climate of Melbourne and Sydney, especially the former, is decidedly injurious, as the summer heat is there excessive, and sudden changes of temperature—I have myself seen the thermometer fall  $40^{\circ}$  in thirty minutes—are frequent. Dust-storms are common in the summer season, and are peculiarly distressing to all sufferers from respiratory disease. The consumptive who tries Australia should be recommended to spend as little time as possible in the cities on the coast, but at once to push on to the inland regions, or else to cross Bass' Straits to Tasmania, where he will enjoy one of the mildest, most equable and altogether most charming climates in the world.

D. I have lastly to speak of the effect of residence at high altitudes in the treatment of phthisis, and I shall restrict myself to Davos, in Switzerland. Here I cannot speak from personal experience; but I have had the advantage of frequent intercourse with those who know Davos well, and my information is as good as any second-hand information can be.

Davos, as most people are aware, is an elevated valley in the Canton of the Grisons, in the east of Switzerland, and is at an elevation of 5,200 feet above the sea level. A local authority thus describes the chief characteristics of the climate:—"The lightness of the air (one-fifth less than at sea level), its extreme purity and dryness, the remarkable absence of clouds (pleasantly illustrated by long periods of brilliant sunny days), the great amount and comparative uniformity of solar radiation, enabling invalids to spend most of their time out of doors, and even in the depth of winter to sit in the open air for many hours daily, and the bracing, tranquil atmosphere, undisturbed by cold winds—all combine to constitute a sanatorium as nearly perfect as can be found."

The following statistics about the climate of Davos cannot fail to be interesting and instructive. The figures are based upon the average of three years:—

1. Average number of cloudless and sunny days:—October, 11; November, 15; December, 16; January, 19; February, 16; March, 17.
2. Average number of days of alternate cloud and sunshine:—October, 12; November, 7; December, 8; January, 9; February, 8; March, 8.

3. Average number of windless days:—October, 14; November, 22; December, 25; January, 25; February, 17; March, 12.

4. Average number of cloudy days:—October, less than 1; November, 2; December, less than 1; January, less than 1; February, none; March 1.

5. Average number of wet and snowy days:—October, 2; November, 3; December, 1; January, 2; February, 2; March, 2.

6. Average number of days on which some rain or snow fell:—October, 5; November, 4; December, 5; January, 1; February, 2; March, 4.

The average height of the barometer is from 24 to 25 inches.

As the best commentary on the above statistics I shall quote some portions of a letter which I have lately received from Davos, bearing date December 7th, 1883. My correspondent is a medical gentleman who has made a marvellous rally after the disease had rapidly progressed to the third stage, and his information is based not only on personal observation, but on the best medical opinion to be obtained in Davos:—

“As regards the cases which do best here, one cannot honestly draw the line; the reason being, that where there is sufficient vigour in the system to resist the cold, almost all classes of cases do equally well. Where the disease has reduced the vital powers very low the circulation cannot be carried on sufficiently in this climate, and such cases do badly; but I fear for them no suitable climate exists. Hæmorrhage cases in the early stage certainly do well. There are people living here who cannot live in the valleys, or anywhere at the sea level, without rapidly developing hæmorrhage. Chronic pleurisy and pneumonia cases get on well—in fact, perhaps best of all. The air seems to be almost a specific for causing the absorption of the fibroid material formed in a case of chronic pleurisy. Very many of the cases here are patients with catarrhal pneumonia of both apices, and they usually progress favourably. Cavity cases are perhaps the most interesting, as they form elsewhere the least successful class of all. Here, when the cavity is not very large or the patient hopelessly weak, cicatrization is the rule. In ordinary consolidation the exudatory products are sometimes absorbed with wonderful rapidity. The great advantage of this climate is its dryness. It is perfectly wonderful how tolerable extreme cold is when the air is dry. Were Davos as damp as London we should all be corpses in a week; but one shivers more in England in the summer than here during the entire winter. It is

certain that the cold is invigorating, and that digestion is thereby improved, assimilation increased, and fat accumulated, and, further, that the snow prevents exhalations of decaying substances from the earth. The absence of dust and the bright sunshine are useful adjuncts, but I think the dryness of the air is the chief point. The cold has been alleged to act as a vermicide to the bacilli."

Evidence such as this cannot be gainsaid, and I shall not weaken it by comment. While the exposure to cold of patients suffering from a disease for the cure of which warmth has usually been regarded as an indispensable condition, is a novelty, and as such is sure to excite opposition more or less reasonable, the proofs of the efficacy of the climate of Davos are yearly accumulating, and can no longer be disregarded by the most prejudiced persons.

I have not left myself time to sum up my results, but it is hardly necessary to do so. I have already indicated my views with sufficient exactness.

I have no high opinion of the south of France, and am disposed to question if it is much superior to the health-resorts of the south of England. Cannes and Mentone are probably the best of the French stations; and I may here remark that Pau and Montpellier are rightly losing whatever repute they ever possessed. The Italian resorts are not much better, and of these Sorrento is perhaps the favourite. Of Egypt and Madeira I cannot speak, and I think where practicable our choice should lie between the long sea voyage, Algiers, Australia, or Davos.

I have already endeavoured to indicate the main indications which must guide our choice in this most vital matter, involving, as it does, both the life of our patient and our own professional reputation.

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ART. IX.—*On the Hygiene of Irish National Schools.* By CHARLES A. CAMERON, M.D., S.Sc.C., Cam.; Fellow and Professor of Hygiene and Chemistry, R.C.S.I.; Medical Officer of Health for Dublin, &c.

AMONGST the many factors affecting the moral, intellectual, and physical condition of a people is the character of the buildings in which they dwell. If they are badly housed, their health may suffer in many ways. A dwelling built upon a damp, undrained, stiff clay is likely to engender rheumatism and diseases of the

breathing organs. If it be of insufficient dimensions, or ill-ventilated, its occupants may have their vital powers lowered, and be thereby rendered more liable to contract contagious diseases should they be prevalent. The overcrowded condition of houses is too often rendered apparent by the pallid faces and bleary eyes of the children who occupy them. On the other hand, houses are sometimes so unprotected against draughts, cold, and damp, that they induce bronchitis, colds, and other maladies. These insani- tary influences are often resisted by those who are happily endowed with robust constitutions, but a certain proportion of persons are unable to withstand them.

If persons of both sexes, old and young, are huddled together in a common sleeping-room, how can they be expected to cultivate habits of decency and self-respect? If the surroundings of a child be gloomy, comfortless, and filthy—if there be no privacy for him under any circumstances—if he be herded like cattle, rather than decently housed—is it to be wondered at if he grows into manhood coarse, indelicate, and uncultured, with, perhaps, both mind and body stunted? The late Lord Beaconsfield said—"We all eat quite enough, and some of us drink too much; but this I will venture to say, that no man can be too well housed." I trust that in Ireland the people at present have sufficient to eat; but whether that be the case or not, it is certain that the peasantry still remain, as they were described many years ago, the worst housed in Europe. The same observation might with equal justice be applied to the homes of the humbler classes in Irish towns. I have ascertained as a certainty that nearly one-half the total number of families residing in Dublin occupy each but a single room.

The deplorable condition of the homes of the majority of the people is at last receiving something more than mere sentimental attention. An earnest effort is being made to provide decent dwellings for the tillers of the soil, and I trust that the day is not distant when the reproach that the Irish peasantry are the worst housed in Europe will be wiped out. As the subject of ameliorat- ing the condition of the homes of the people is now uppermost in men's minds, the present is an opportune time to bring under public notice the defective state of a large proportion of the Irish National Schools' buildings, and also of the teachers' residences.

If the better housing of the farm labourer and the towns' work- man constitutes a proper subject for legislative enactments, surely

the state of the buildings in which a meritorious and important class of public servants pass their lives, and the great majority of the youth of the country expend a large and critical portion of their existence, is also a matter for national solicitude! I think I shall be able to show that a large proportion of the teachers in the primary schools of this country are either unprovided with residences attached to their schools, or are obliged to live in comfortable, inconvenient, insufficient, and too often insanitary dwellings.

#### THE SCHOOL BUILDINGS AND PLAY-GROUNDS.

The Reports of the Commissioners of National Education show the condition of the schools to which they contribute, as reported by the Inspectors of the Board. In their Report for 1882 the condition of the buildings, &c., of 7,302 schools is briefly stated. Of the schoolhouses, 4,805 are reported to be "good," 1,920 "middling," and 577 "bad." Of out-premises and play-grounds, there are none in connexion with 1,607 schools. In 524 cases the state of these appendages is pronounced to be "bad," and in 1,827 instances "middling," leaving a balance of 3,344 schools in which the play-grounds are reported to be "good." With respect to sanitary accommodation, it will be hardly credited that there are no less than 1,704 schools without a single altar to Cloacina. The children who are taught in these schools are therefore obliged to sacrifice to that goddess beneath the shelter of a friendly hedge, or perchance their worship may be conducted under circumstances which render it perceptible to the olfactory nerves of the passers-by. It may well be asked—what excuse have the urban sanitary authorities for permitting such a state of things to exist—of allowing (with the ample powers which they possess) twenty-two per cent. of the elementary schools of the country to remain without any kind of sanitary accommodation. The 45th section of the Public Health Act of 1878 enacts—"That the sanitary authority may require the owner or occupier of a house to provide it with proper water-closet, earth-closet, or privy accommodation; and if the owner or occupier neglects to comply with the requisition, the sanitary authority is empowered to do the necessary work, and to recover the costs of same in a summary way from the owner or occupier." In country districts and small towns the Board of Guardians is the sanitary authority. For the purposes of the Public Health Act a school is to be considered as a house.

In the cases of 498 schools, the inspectors report the sanitary

accommodation to be "bad," in 1,659 to be "middling," and in 3,441 to be "good."

As regards space accommodation, the inspectors report that it is "good" in 4,824 cases, "middling" in 1,273 instances, and "bad" in the remainder, 742.

With respect to the results of my own observation of the National Schools' buildings, I must say that I have rarely seen one strictly constructed upon the principles of hygiene and comfort. In the larger towns one now and then meets with a cheery and comfortable schoolroom, but in the rural districts the schools are, with few exceptions, wretched structures, being sometimes mere mud cabins, with cold clay floors and thatched roofs.

Taken as a whole, the National Schools are mean, ill-constructed buildings, quite unworthy to be used in connexion with one of the noblest of man's works—the cultivation of the human understanding. The following appear to me to be amongst their chief defects :—

#### CUBIC AND SQUARE SPACE.

The minimal amount of space allowed per head in the registered nightly lodging-houses is 300 cubic feet; but it is held that a healthier standard amount is 1,000 cubic feet. In schools where children are often, on wet days for example, five hours together, 100 cubic feet per child seems to be a very insufficient amount; yet I know a school in which, when the attendance of pupils is at a maximum, each is provided with only  $1\frac{1}{2}$  square and 35 feet of cubic space. In very many schools the square space is, on days of maximal attendance of pupils, less than three feet, and the air space less than 35 cubic feet. In such a confined and tainted atmosphere as this state of things engenders, the health of both teacher and pupil must suffer. Here are the dimensions of a girls' school in which the average attendance, in 1882, was 65, and the maximal, 95 :—Length of schoolroom, 26 feet, breadth, 17 feet; height of side walls,  $5\frac{1}{2}$  feet; height from floor to centre of coped roof (there is no ceiling), 9 feet. In this room, when most crowded, each girl has 4·63 square feet to move in, and 33·77 cubic feet to breathe in. This schoolroom is superior to many others in the same part of Ireland.

#### VENTILATION.

Schoolrooms ought to be supplied with two sets of windows, opening in opposite directions; so that the windows nearest to the

wind may be kept closed, and those on the opposite side kept open for the purposes of ventilation. In many schools the windows cannot be opened at all, instead of having sashes to open both up and down. It is seldom that ventilators other than the doors, windows and fire-places are used. It would be a great improvement if Tobin's ventilating tubes were generally introduced into the schoolrooms. The more important schools should be provided with ventilating shafts passing through the ceiling.

#### LIGHT.

In many schools there is too little glass and too much wood-work in the window sashes. Very often the light, especially in winter, is quite insufficient. This deficiency has an injurious effect upon the eyes of the pupils, occasionally leading to near-sight and other defective forms of vision.

#### HEATING.

In the rural districts the schools are, as a rule, insufficiently heated in cold weather. Turf or coal, burnt in open fire-places, is in general the source of the scanty heat evolved, and the major portion of which is transmitted up the chimney. When the children, often insufficiently clad, reach the school, after a cold and miserable walk of from one to three miles, they are obliged to sit down in their wet and frozen garments, in rooms the temperature of which is often very little above that of the external atmosphere. I know that the problem of heating schoolrooms is one difficult to be solved, especially in the case of small and comparatively unimportant ones. Still I do think that something more than is done might be effected in the way of rendering the primary schools warmer in winter and cooler in summer. Flagged and earthen floors ought certainly no longer be tolerated. Stoves of large size, and placed in the centre of the room, ought to be used when turf is the fuel. With coal smaller stoves would answer, provided, for health purposes, they were lined with fire-clay. Iron stoves heated to redness, by means of coal, are most injurious to health, as within them the deadly poison termed carbonic oxide is developed. The insanitary state of many schools in the United States has been attributed to the use of naked iron stoves consuming anthracite coal. In every schoolroom there should be a thermometer, which should not show a lower temperature than 60° Fahrenheit.

**SANITARY ACCOMMODATION.**

As already stated, slightly more than 22 per cent. of the National Schools have no sanitary accommodation of any kind, and in a large proportion of the remaining schools the out-offices are so dilapidated and filthy as to be almost useless. As there are many schools without play-grounds, or out-offices of any kind, the children who resort to them are obliged to attend to the calls of nature in places which are often exposed to public view. Those who object to this unpleasant exposure must resist the calls of nature during school hours, often causing great injury to their health. In these cases where there are privies, the master, if the school be somewhat large, often finds it difficult to keep them in proper order. As a rule, if he can afford to keep a servant at all, it is a woman, and she is not fitted to look after the latrines of a boys' school. I think the local sanitary authority should employ persons to keep clean the sanitary accommodation of all the public buildings in their district, the proper maintenance of which is not otherwise provided for. A National School is truly a national or public building, and some means should be devised to keep it clean and in repair. This duty, I think, would be best discharged by the Board of Guardians, and the costs defrayed out of the rates.

**SITES FOR BUILDINGS.**

Many of the schools are built upon the worst possible sites, where they have no good drainage, no shelter from the coldest winds, and no supplies of good water. In the villages and towns they are often overshadowed and rendered unhealthy by loftier and closely adjacent buildings.

**SCHOOL FURNITURE.**

In many schools children of very unequal heights are seated at the same desk; some of them are therefore obliged to assume constrained postures, which ultimately leads to spinal contortion and other deformities. The seats used too are not constructed to give proper support to the body. I shall not dwell upon these defects of schools, as they are by no means peculiar to the Irish primary schools, but may be found in the most expensive boarding schools. As matters exist, it might be better to arrange the children at their desks in groups agreeing in stature of body and not according to their proficiency in knowledge.



In pointing out the defective condition of a large proportion of the elementary schools of this country, I purposely abstain from considering in detail the measures requisite to place them under proper hygienic conditions. I prefer to indicate in broad and general terms the urgent necessity which exists for educating the youth of the country under conditions best calculated to develop their moral, intellectual, and physical qualities. This great work cannot so well be accomplished in over-crowded, ill-lighted, badly-ventilated, dilapidated, ugly and mean buildings, unprovided with play-grounds or even privies! It is surely humiliating to be obliged to admit that hundreds, I might almost say thousands, of our schools deserve this description. Improvements are urgently required in reference to the heating of schools, to the proper supply of air and light to them, to the decoration of their walls to the nature of their fittings, to their position and surroundings. It may be said that the homes of the school children are no better than their schools. They are accustomed to mud walls and clay floors. This is not true of all the attendants at the National Schools, but even with respect to those to whom it does apply, surely they would be benefited by their temporary residence in a building possessing the comforts with which every home should be endowed. I have no doubt that even unaided the Irish peasantry could make their homes brighter, more cheerful, more comfortable than they are. Let the well-constructed and decently-fitted schoolhouse be the model house of its district. The schoolhouse will then become, like the schoolmaster, an educator and a civiliser.

#### THE TEACHER'S RESIDENCE.

I now come to consider the subject of the teacher's residence, but first let me say a word in reference to the teacher himself. That his *role* in the political economy of the State is an important one, no one can with justice deny. He is a powerful factor in the moulding of the mind of the youth of the country at a time when it is most plastic and capable of receiving indelible impressions. The teacher should therefore be a cheerful, contented man, loyal to his country, to his order, and to his pupils. To ensure in him the possession of those qualities, the State must recognise in him a man of culture, discharging duties of vast import to the nation, and deserving of a fair measure of social recognition and pecuniary reward. It must be confessed that the social position of the Schoolmaster is not so high in this country as it is in Germany,

the United States, or even in England and Scotland; and the lower status appears to be largely, if not altogether due to the lower rate of remuneration, and to the inferior house accommodation which the Irish teacher—I was going to say *enjoys*, but I alter the word to—receives. The average income of the 12,296 National Teachers it seems is only £57 9s. A bricklayer's wages amount to more than this sum, and a steady plumber could earn double as much. If a teacher, earning less than £60 a year, is a man with a large family, how can he keep his mind free from the distractions incidental to the maintenance of a large family out of a very limited income? He cannot, as a rule, be the cheerful, contented, loyal man whom I have endeavoured to pourtray.

With respect to residences, many teachers have not what may be termed official residences. They are obliged to rent houses, or to become lodgers. Very often neither house nor lodging can be procured near the school, and the unfortunate master or mistress, as the case may be, is sometimes obliged to walk daily from one to three miles to and from the school. A teacher in the county of Clare gives me the following pathetic account of his state:—"I rent," he says, "one cold, damp room, about eight feet square, for which I pay £3 a year. In this I sleep, take my meals, and I do whatever reading and writing I can. There is not even a fire-place in it. It is with great reluctance I go to the kitchen fire to warm myself even when almost benumbed with cold, as the coarseness of manner and language, and even the insults, directed at the teacher, are things which I do not care to encounter. My condition in this respect is truly deplorable, but I can make it no better. The female teacher has to travel six miles daily, over a bleak and desolate mountain path to and from her home."

The residences attached to schools are, for the greater number, too small, and in many other particulars they are very defective. It is generally admitted that the cottages proposed to be built for agricultural labourers, under the provisions of the recent Act, should have three rooms. Now, there are hundreds of teachers' dwellings in this country in which there are but two rooms, and many which consist of a single apartment. The following is a description of a school residence in the county of Kilkenny, and an example of many others in that county. The residence consists of a room 13 feet by 11 feet, and having a clay floor, and a second apartment, 14 by 7 feet, used as a kitchen and bedroom. The house is in low position and subject to floodings. It is occupied

by nine persons! A teacher in the County Tipperary supplies me with the following painful statement:—"My wife, who is teacher of the girls' school, and I are obliged to live in one of the so-called 'free-residences,' which contains but one apartment, 15 by 12 feet. The floor is clay. About one-fourth of the roof was stripped off during the gales of last October, and has not since been repaired. The walls are eight feet high, and there is neither plaster nor ceiling of any kind in the apartment." The teacher is obliged to live in this wretched place, because he could get no other, except at a distance of nearly four Irish miles. I could give scores of similar instances of wretched dwellings.

At the close of 1880 there were only 1,515 free residences for the accommodation of 7,429 principal teachers in charge of National Schools. These residences are, for the greater number, insufficient in accommodation in those cases where the master is married and has a family. In my opinion the minimal number of rooms in a teacher's house should be four. He would require a room for the purpose of study. If the agricultural labourer is to be provided with a three-roomed house, surely the National Teacher ought to have a four-roomed one.

It seems to me that there is no good excuse for the defective state of teachers' residences, seeing that legislative enactments have provided a facile means for their erection. An Act of Parliament, passed in 1875, provides that the Board of Works may grant a loan of money, for the purpose of building teachers' residences, the loan to be repaid within 35 years, in annual payments at the rate of 5 per cent. on the amount borrowed. When such a loan has been obtained, the Commissioners of National Education are empowered to pay one-half of the annual payments. Supposing that a teacher's house is erected at a cost of £200, then the annual repayment would be £10, but only £5 would have to be provided by the local authorities—i.e., the patrons. Thus, for a sum of £5, paid annually for 35 years, a good house might be provided which, at the expiration of that period, would become the absolute property of the school patrons.

It would appear that the patrons have not taken advantage, to any great extent, of this liberal provision of the Legislature. This circumstance, and the difficulty of procuring sites for teachers' residences, are matters that ought to be dealt with by the Legislature. Powers to take land compulsorily, for the purpose of erecting teachers' dwellings, should be vested in the Commissioners

of National Education; and if the patrons of the school persist in refusing to the teachers that domestic accommodation, which in common justice is their due, it might be found necessary to entrust the erection of schoolhouses and teacher's dwellings to some such body as the Board of Works. As the Government are willing to provide one-half of the cost of erecting teachers' dwellings, the county cess or the poor's rate might be called upon for the other moiety.

I shall conclude this paper with a short quotation from page 209 of my "Manual of Hygiene":—"All our schools should be regularly inspected by public officers, as workshops and factories are. There are many laws on our statute books which relate to the health of men, women, and children employed in mines, factories, and other places; why should there not be equal provision for ensuring the health of the millions of children at school in these countries? Amongst her Majesty's Inspectors of Schools there ought to be a few Medical Inspectors. Let us not forget the old adage—'*Mens sana in corpore sano.*'"

#### RECOVERY FROM CHLORAL POISONING.

DR. PAOLO ROSSI publishes a case of poisoning by 3vij of chloral hydrate, which is chiefly interesting on account of the recovery of the patient. The patient was a young man, aged twenty-five, who took 3vij of chloral hydrate dissolved in water, half an hour after eating. About half an hour afterwards 3j of cherry-laurel water was given. Two hours after the ingestion of the drug the patient was seen by Dr. Rossi. At that time the patient had the appearance of one attacked by severe cerebral hæmorrhage. The face was congested, the respiration stertorous and 32 per minute, pulse small and 132. The temperature was normal. Cutaneous anæsthesia; muscular relaxation was complete; the pupils were contracted, but mobile. There was no vomiting or purging. The cherry-laurel water had had no effect. Vomiting was produced by titillation of the fauces. Twenty-eight sinapisms were applied, and mxxv of ether were injected hypodermatically; an ice-bag was applied to the head, and a clyster of f3vj of alcohol was administered. About two hours afterwards he began to move his arms. Little by little he began to move his body, and finally sat up. On the next day a large dose of the citrate of magnesia was administered, which produced four or five evacuations.—*Gaz. degli Ospitali*, October 10, 1883, and *Medical News*, January 12, 1884.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Poisons: their Effects and Detection. A Manual for the use of Analytical Chemists and Experts.* By ALEXANDER WINTER BLYTH, M.R.C.S.; F.C.S., &c. London: Charles Griffin & Co. 1884. Pp. 712.

THIS work is a welcome addition to the rather limited literature of forensic medicine. It has been very carefully compiled from the writings of British and foreign authorities, especially from the latter, and its references are largely to recent writings. There is considerable freshness in this book, and there is certainly no padding in it. A very large amount of information is given in reference to almost every species of poison. As might be expected, much space is devoted to the consideration of animal poisons, the author having previously published very elaborate papers on the poison of the cobra.

Mr. Blyth's book opens with a very interesting chapter on "the old poison lore," in which we are informed that according to a saga of ancient Greece, Hecate, a sorceress, residing in the far North, was the discoverer of poisonous herbs. The Greeks used poison as a means of capital punishment in the case of State prisoners. The most ancient treatises on poison known of are those written by Nicander, of Colophon, 204–138 B. C. A sketch of the history of many notorious poisoners is given, including, of course, the infamous Toffana, who is charged with having poisoned more than 600 persons. The author might have given us a little dissertation on *philters*, concerning which there is by no means a scanty literature. A very interesting list of the chief works on toxicology, published in the present century, is given, from which, by the way, we miss Beck's classic work, rich in cases of poisoning, and which may still be consulted with advantage in many cases.

The accounts of the properties, poisonous doses, and detection of poisons given is, on the whole very satisfactory. There is much more elaborateness of details in reference to the methods of detec-

tion of the poisons than in regard to other points—a feature which we consider commendable. Those who desire to study individual cases of poisoning, will be fully gratified by consulting Tidy's ponderous volumes, or the fine work on "Medical Jurisprudence," published some years ago, by the late Dr. Taylor. We can certainly recommend Mr. Blyth's book to those analysts who are occupied in toxicological researches, for the work is copious and minute in analytical details.

In reference to the various poisons, we think that *almost* every toxic principle has been referred to in this work. We think, however, that carbonic acid and carbon monoxide should not have been omitted from a list of poisons which includes such substances as antihogenic acid and oxalpropylene. No reference is made to the poisonous action of chlorine, though its fatal effects upon man have been recorded in the pages of this journal, since which a most elaborate monograph upon the subject has been published by Professor Binz. Iodine is treated of from a toxicological standpoint; but bromine, which is much more poisonous, is not mentioned at all. One drop of this liquid placed by Thenard upon the bill of a bird proved almost immediately fatal.

We conclude by strongly recommending Mr. Blyth's book, for, although a few poisonous substances are not mentioned at all, the more commonly employed ones are treated upon with copiousness, and, what is of greater importance, with accuracy.

*Cholera a Disease of the Nervous System.* By JOHN CHAPMAN, M.D., M.R.C.P., M.R.C.S.; late Assistant Physician to the Metropolitan Free Hospital, and late Physician to the Farringdon Dispensary. London: J. & A. Churchill. 1883. Pp. 16.

ONE-HALF of this pamphlet is a translation of a letter addressed in August last to the *Paris Journal de Médecine*, in which Dr. Chapman describes his treatment of seven cases of cholera with ice-bags to the spine at Southampton in 1865, and formulates in nine propositions his theory of cholera. The other half is chiefly occupied by a reprint from the *Medical Times and Gazette* of a review by Sir A. Clark of Dr. Chapman's work on "Diarrhœa and Cholera" (Triebner & Co., 1866). It appears that of seven cholera patients whom Dr. Chapman was permitted to "bag" in 1865, only two died, giving a mortality of 28 per cent., while the death-rate in the other fifty cases treated in the ordinary way at

Southampton at the same time was 62; and "even in the fatal cases the facts observed during their treatment attested in a striking manner the great remedial power of the method adopted. In both cases the vomiting, purging, cramps, and algide symptoms were completely overcome. A fatal result in each case, however, was almost inevitable; of the two patients one was an habitual drunkard, who drank gin to the last, and the other was an old woman, aged seventy-three, who, owing to poverty, had been living at almost starvation point for some time before she was attacked."

Those of us who have to deal with cholera will thank Dr. Chapman heartily if he gives us a new weapon for the anxious fight: but we deprecate theories. Even Indian practitioners, who study the disease on the large scale and really know something about it, seem to lose their heads, and in some cases to become dangerous lunatics, when they sit down to theorise upon what they have seen and done. Dr. Chapman's propositions that "cholera is not the product of a blood-poison," that the existence of a cholera-poison has not been proved, and that "the so-called 'cholera-germs' are as exclusively hypothetical as the 'cholera-poison' itself," are harmless enough, but others of his views would be pernicious if adopted; and it is deeply to be regretted that similar opinions have been adopted and pertinaciously urged upon the Government of India by an officer whom a series of happy accidents rather than conspicuous ability has placed in a position of considerable influence. We do not hesitate to affirm that, both numerically and in weight, there is an enormous preponderance of Indian experience against the following propositions of Dr. Chapman:—That "cholera does not 'travel,' as it is said to do, from place to place;" that "there are very strong reasons for believing that cholera is neither infectious nor contagious;" that all "laws of quarantine are futile and therefore unjustifiable," and often favours the development and continuance of the disease; and that "cholera (whether 'Asiatic,' African, European, or American), the so-called 'cholera,' the summer-diarrhoea of temperate climates, and the 'cholera-infantum' of the United States, are really one and the same disease."

We saw it stated not long since in a newspaper that Surgeon-General Cuninghame and Surgeon-Major Lewis had been deputed by the Government of India to meet Professor Koch and help him to find a cholera-bacillus. Can this be a bad joke set afloat by a medical wag? If cholera is caused by a micro-organism present in the intestines, the propagation of the disease, by and through the

dejecta, from man to man and along the lines of human intercourse follows as a necessary consequence. Dr. Cunningham has put himself prominently forward—is almost the sole conspicuous champion on that side—to maintain that cholera does *not* spread from one patient to another, directly or indirectly, and does *not* follow the course of human travel. Is he likely to see the bacillus, even with the aid of what Sam Weller calls “a pair o’ patent double million magnifyin’ gas microscopes of hextra power?” Surgeon-Major Lewis has spent some seventeen years of Indian service in looking for a “cholera-germ.” Is he likely to see through Professor Koch’s microscope what never gladdened the field of his own?

We trust that the industrious and enterprising German investigator will have as assistants gentlemen whose minds are at least open to conviction.

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*Medical Quacks and Quackeries.* By FRANCIS J. SHEPHERD, M.D. (Reprinted from the *Popular Science Monthly*, June, 1883.) Pp. 18.

IN the absence of an orthodox title-page it required immense acumen to discover that this paper belongs to Montreal. The subject is an amusing and interesting one, and more might have been made of it. The great “Professor” Holloway, who is so lately passed away from us, and who, like Marwood and other leading representatives of English greatness, has received the apotheosis of a biographical notice in *The Times*, is not even mentioned; and surely the grandest of modern quacks, said to have shown his belief in himself—the essence of success—by swallowing abundantly his own pills and smearing himself copiously with his own ointment, deserved notice in a paper such as this? To us the most remarkable feature in Dr. Shepherd’s reprint is the prominent position occupied in it by certain notorious countrymen of our own. “Distinguished” Irishmen do not exist. As soon as man or woman born at this side of the Irish Sea shows symptoms of becoming distinguished, he or she is annexed and becomes “English.” So, according to Macaulay, Burke and Sheridan were “the English Demosthenes and the English Hyperides.” So Foley and Maclise were English artists; Todd and even Stokes English physicians. If, then, we may not have celebrities, let us make much of our notorieties, whom no one grudges to us, and devote a page or two to Greatrakes and Long, and Butler the precursor of Hahnemann.



Our author's account of the first of these is brief and unsympathetic:—

“Curing diseases by the laying on of hands was practised with great success by Valentine Greatrakes, an Irish gentleman of good family, who served under Cromwell both in a military and civil capacity. At the Restoration, being deprived of his offices, he undertook to cure the king's evil by touch, or stroking, as it was called; he succeeded so well in this that he extended the field of his labours and treated epilepsy, asthma, convulsions, deafness, &c., by the same method. The latter diseases being all due to disorders of the nervous system, benefit was no doubt frequently obtained through the effect of the imagination. ‘Imagination,’ says Lord Bacon, ‘is next akin to a miracle-working faith.’ Greatraikes’ fame soon spread, and he was sent for from far and near; the Earl of Orrery and Lord Conway patronised him, and he even deceived the great Robert Boyle. At length he arrived in London, where for some time he was most popular. The majority of his admirers were ladies, and on the more hysterical of the sex he performed marvellous cures. Soon, however, the tongues of slander and ridicule assailed him, and he retired to his native country and obscurity” (p. 4).

Valentine Greatrakes was born in the county of Waterford in 1628. He was carefully educated as a boy, but the outbreak of the civil war prevented his entrance at the University. His education in “humanity and divinity” was completed by a maternal uncle. It was at the Restoration that he obtained official employment as clerk of the peace and a magistrate for the county of Cork, and he did his work in these capacities well. Suddenly he became convinced that he was endowed with a healing power. He describes the circumstances himself in these words:—“About four years since I had an impulse which frequently suggested to me that there was bestowed on me the gift of curing the king's evil, which for the extraordinariness thereof I thought fit to conceal for some time, but at length I told my wife, for whether sleeping or waking I had this impulse; but her reply was ‘that it was an idle imagination.’ But, to prove the contrary, one William Maher, of the parish of Lismore, brought his son to my wife—who used to distribute medicines in charity to the neighbours—and my wife came and told me that I had *now* an opportunity of trying my impulse, for there was one at hand that had the evil grievously in the eyes, throat, and cheeks; whereupon I laid my hands on the places affected, and prayed to God, for Jesus’ sake, to heal him. In a few days afterwards the father brought his son so changed that the

eye was almost quite whole; and to be brief (to God's glory I speak it), within a month he was perfectly healed—and so continues." His fame spread through the surrounding country, and his out-offices became filled with patients. Even physicians believed in him!

Lord Conway sent for him to England to cure his wife of obstinate cephalalgia. This he failed to do; but multitudes followed him to be healed, and he is reported to have been most successful in his treatment of them. So far was he from having been driven by poverty to exercise his power, or to "assume a virtue if he had it not," as is implied in Dr. Shepherd's account of him, that his practice was wholly gratuitous. In England some attributed his cures—as he did himself—to a supernatural gift; others to the effect of friction on the diseased parts. Now-a-days the "power of imagination" would be considered sufficient to account for all his cures, though it is not clear why the irregulars should be able to set this power in motion after regular physicians have tried orthodox skill and potent drugs in vain. *Non nostris tantas componere lites.* Philosophers and bishops believed in Great-rakes; Charles II. (though a rival practitioner) invited him to London and recommended him; but he seems to have collapsed mysteriously, and the date of his death is unknown. He was in Dublin in 1681.

John St. John Long—the "St. John" being an interpolation for effect—was a man of a different stamp. He was born near Doneraile, and in early youth helped his father to make baskets. He acquired some knowledge of painting from an artist in Dublin, and after a period of portrait-painting and fox-hunting in county Limerick, where he was popular amongst the gentry, he went to London to seek his fortune—and found it. He lived for a while by colouring anatomical drawings; and having thus completed his medical education, he announced that he had discovered a wonderful liniment, which produced no effect upon a sound part, but, applied over an unhealthy organ, extracted morbid humours. He undertook to cure phthisis especially; and his success in drawing patients (ladies for the most part) was amazing. For some years his income exceeded £13,000 a year. He mixed in the best society, rode magnificent horses, and hunted regularly. At last he killed a patient with his too-potent liniment and, being an "irregular," was tried and convicted of manslaughter, but escaped with a fine of £200. A nobleman testified at the trial that Long had extracted

pure mercury from his head, and other aristocratic witnesses gave evidence in his favour. Then he slew another patient, was tried again, and acquitted. He retained his popularity and his practice, in spite of these *contretemps*, to the last, and died young, in 1834. His virtues are recorded on a handsome monument, raised by his admirers, in Kensal Green. His liniment (for which Graves gives a formula in his "Clinical Lectures") is unquestionably a good one; and we can scarcely doubt that many cases of phthisis and other visceral diseases were benefited by the powerful counter-irritation which the application of the liniment induced.

Our author will not concede to Hahnemann even the poor merit of originality for two out of his three grand principles. Of the "third dogma or truth"—that seven-eighths of all chronic diseases are produced by psora or itch—he admits him to be the sole author. "This psora," says Hahnemann, "is the sole, true, and fundamental cause that produces all the other countless forms of disease, which go under the names of hysteria, hypochondriasis, debility, insanity, melancholy, idiocy, epilepsy, cancer, gout, paralysis," &c., &c. This discovery took him twelve years to make, and is all his own. His first therapeutical principle—*similia similibus curantur*—he 'conveyed' from Paracelsus, though it is as old as Hippocrates. His second principle—the superior potency of infinitesimal doses—is that with which we are concerned here; inasmuch as Dr. Shepherd traces it to "one Butler, an Irishman, who was formerly physician to James I." Van Helmont describes Butler's procedure and success. He "performed wonderful cures with a pebble he had in his possession. He dipped this pebble quickly into a teaspoonful of olive oil, poured this 'magnetised oil' into a large vessel of oil, and directed the patient to take one drop occasionally. When one drop was put on the head of an old woman suffering from hemicrania, the pain instantly disappeared. An abbess was relieved of loss of power in her right arm by merely touching her tongue to the pebble." It must be confessed, however, that if Hahnemann drew his infinitesimal inspiration from our countryman, he improved upon the original idea. "But," he says in his "Organon," "if the patient is very sensitive, it will be sufficient to let him smell once of a vial containing a globule of sugar the size of a mustard-seed; after the patient has smelled it, the vial is to be re-corked, and will thus serve for years without its medical virtues being perceptibly impaired"—as, indeed, we can readily believe.

We might say something of our excellent Bishop Berkeley and

his universal medicine, tar-water; but we forbear to trespass further on our readers' time and patience.

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*Lectures on Cataract: its Causes, Varieties and Treatment.* By GEORGE COWELL, F.R.C.S. London: Macmillan & Co. 1883. Pp. 126.

SIX Lectures, originally delivered unwritten to the students of the Westminster Hospital, and some years subsequently rewritten and published, form the present volume. "These lectures," says the author in his preface, "are not exhaustive, but place the subject, it is hoped, in a not unattractive form." They are written in the discursive style of lectures, and though they convey much useful information they occupy 126 pages in doing it.

The first lecture contains a description of some of the forms of cataract, with their diagnostic signs and symptoms. The second lecture is a continuation of the first, and treats more particularly of classification.

Under the head of Congenital Cataract the author includes "cataracts which are developed in early life, whether they be the result of changes in the lens which had commenced during the fetal state or of changes established after birth." We do not know on what principle this loose nomenclature is adopted. The word *congenital* cannot with any propriety apply to post-natal changes, and it would be very much more satisfactory if the term *infantile* were used to express post-natal cataract, *congenital* being applied alone to pre-natal conditions.

In speaking of lamellar cataract he omits entirely to mention the name of Mr. Hutchinson, and, only when writing the preface, "the author finds that he has omitted to mention the well-established clinical fact—the association of lamellar cataract with an imperfect development of the enamel of the teeth."

The last four lectures are devoted to a description of the various operations which have been and are employed for removal of cataract.

A long and accurate account is given of the old, and now almost abandoned, flap extraction. This occupies no less than 13 pages at the beginning of Lecture IV. We think this arrangement defective; for though the flap extraction and its modifications take precedence of Graefe's extraction and its modifications in a historical *résumé*, still in lectures to students we think that it is better to give the more useful information first, and the historical afterwards.

The author does not omit to state the method of operation which he has adopted. He nearly always gives an anæsthetic; less than ten per cent. of his cases were operated upon without one. His section is usually corneal, but sufficiently peripheral to be sub-conjunctival. He most rigidly abstains from looking at the eye before the fourth day, and often waits until the fifth or sixth. He has used and abandoned the use of antiseptics in cataract extraction.

No mention is anywhere made of Forster's method of rupturing the capsule with a forceps instead of a cystotome, though this mode has obtained favour with many operators. Nor is Wecker's method of calculating the size of the corneal section mentioned, though it probably is the most practical that has yet been devised.

On the whole, however, we can fairly congratulate Dr. Cowell on the lectures which he has been induced to publish, and they will form a reliable and ready book of reference for those who have not got access to the more complete works on the subject.

#### *RECENT WORKS ON MATERIA MEDICA AND THERAPEUTICS.*

1. *Elements of Pharmacy, Materia Medica and Therapeutics.* By WILLIAM WHITLA, M.D., Q.U.I.; Physician to the Belfast Royal Hospital; Consulting Physician to the Ulster Hospital for Diseases of Women and Children; Vice-President of the Ulster Medical Society, &c. Second Edition. London: Henry Renshaw. 1884. 8vo. Pp. 602.
2. *The Extra Pharmacopœia of Unofficial Drugs and Chemical and Pharmaceutical Preparations.* By WILLIAM MARTINDALE, F.C.S., and W. WYNNE WESTCOTT, M.B., Lond. Second Edition. London: H. K. Lewis. 1884. Pp. 330.

1. WHEN a large issue of a work like this by Dr. Whitla is exhausted so quickly as to necessitate the publication of a second edition within two years, two things may be accepted as facts—first, that a want existed for such a manual; and secondly, that the author's efforts to supply this want have been successful.

Immediately after the appearance of the former edition we expressed the high opinion of the merits of the work which we had formed from a careful perusal of its pages. All that we said on

that occasion in praise of the book applies equally to the present volume, which is at the same time greatly improved in some important particulars. Thus the subject of "Non-official Remedies" now receives that attention which it deserves. In the former edition only seven pages, printed in rather a glaring red ink, were devoted to the consideration of "a few of the most generally known medicines which have not yet found their way into the Pharmacopœia;" and these seven pages were tacked on to the section on Materia Medica. Now, on the contrary, Part IV. of the work extending over 58 pages deals exclusively with "Non-official Remedies." Here may be found an account of the latest novelties—such as *Kairin*, the artificial alkaloid recently introduced as an antipyretic by Dr. Filehne, and which is really the hydrochlorate of oxy-chinolin-ethyl!—*Resorcin*, closely allied to carbolic acid, over which, however, it possesses the very decided advantages of being much more soluble, free from odour, and non-irritating—and *Paraldehyde*, a fluid lately introduced by Morselli as a hypnotic. In this portion of the book also Dr. Quinlan's researches on the virtues of the mullein plant (*Verbascum Thapsus*) as a remedy in phthisis are fully detailed. The author naively remarks—"The virtue of three pints daily of good milk must very substantially augment the therapeutic action of the mullein plant." He adds—"The same authority (Dr. Quinlan) has, however, experimented with this remedy, with and without milk, and is satisfied of its power over the nutrition of the body when given alone, as in the form of succus."

The accuracy and acuteness of observation which characterise Dr. Whitla are illustrated in his remarks on Vaseline, about which he says that "the absence of all traces of irritating or changeable constituents in it, and its absolute freedom from taste, smell, or grittiness, render it the best basis for ointments ever introduced. It is insoluble in water, and mixes with oils in all proportions, and it dissolves most alkaloids. It is, however, not so good a basis as an animal fat, if we wish to get these substances *absorbed* by the skin. Alone it forms an excellent and perfectly bland application to eczema, intertrigo, burns, sores, scalds, and almost every conceivable irritated condition of the skin."

Another novel feature in the present edition is a very succinct index of poisons and their antidotes. This was all that was needed to render the work a most complete and reliable epitome of Pharmacy, Materia Medica, and Therapeutics. It is indeed such a

work as was to be expected from the pen of one who enjoys an established reputation as an able, earnest, and successful teacher, not only of the important subjects of *Materia Medica* and *Pharmacy*, but also of the still more important sciences of *Pharmacology* and *Therapeutics*. Dr. Whitla has nothing to fear from honest criticism of his book, the former edition of which deservedly attracted attention and secured a widespread popularity at a time when the market was, if anything, overstocked with treatises and manuals on *Materia Medica* and *Therapeutics*. The literary style of the volume is of no mean order of merit, and reflects credit on the late Queen's University in Ireland, of which the author is a distinguished alumnus, and to the Medical Graduates of which Dr. Whitla appropriately dedicates his work in memory of their *Alma Mater*.

2. We have so recently drawn attention to the merits of Mr. Martindale's *bijou* book,\* that it is merely necessary to note in the publication of a second edition the fulfilment of our prediction as to its ready sale.

The work has been carefully revised, and several improvements have been introduced. For example, a "Therapeutic Index" has been added—a list in which, under the heading of the disease or symptom, will be found the more definite remedies now in use. Twenty-three additional drugs and chemical preparations, including the new febrifuge kairin, are also described, and forty-one new formulæ, as well as numerous references, have been inserted to bring the work up to date.

We understand that a foolscap octavo edition, bound in cloth, appears simultaneously with the present issue of the book in its previous compact form.

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*Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-fifth Annual Session. Baltimore, 1883.*

AMONGST these Transactions, which are mainly reports on the progress of different departments of medical science, we notice the annual address by Dr. Billings, surgeon-general of the United States army. Of the original papers the most remarkable is that by Dr. Thomas, entitled "A Contribution on the Influence of

\* Dublin Journal of Medical Science, Vol. LXXVII., page 79. No. 145. January, 1884.

Season and Weather on the Death-rate from Diphtheria in Baltimore." His observations, which appear to be very carefully made, extend over the past twenty years. He concludes that in Baltimore the variations of temperature have no manifest influence on the absolute mortality of that disease, but that they modify the malignancy of the cases. The conditions favourable to a rise in the mortality are—low barometer, low winds, especially from the east, high temperature with high humidity, and heavy or continued rainfalls. The conditions favourable to a fall are high winds—especially from the west—low humidity with high temperature, or high humidity with low temperature, and generally a high barometer.

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#### RECENT WORKS ON MEDICAL DIAGNOSIS.

*Medical Diagnosis: a Manual of Clinical Methods.* By J. GRAHAM BROWN, M.D., F.R.C.S. Ed.; F.R.S.E.; late Senior President of the Royal Medical Society of Edinburgh. Second Edition. Edinburgh: Bell & Bradfute. London: Simpkin, Marshall & Co. 1883. Pp. 370.

*The Physiological Factor in Diagnosis. A Work for Young Practitioners.* By J. MILNER FOTHERGILL, M.D.; Physician to the City of London Hospital for Diseases of the Chest; Hon. M.D. Rush College, Ill.; Associate Fellow of the College of Physicians Philadelphia. London: Baillière, Tindall & Cox. Pp. 256.

DR. BROWN'S work has been so successful that a second edition has been called for within a year of its first appearance; and the statement of this fact is sufficient commendation. The chapter devoted to the reproductive system has been wisely omitted. We think that Chap. XIII., treating of Graphic Clinical Methods, the Sphygmograph, Cardiograph and Sphygmomanometer, might have disappeared too, without appreciable injury to the student; and we trust that this long-suffering youth will not devote an undue amount of time to Chap. XVIII., or allow himself to be persuaded that he cannot diagnosticate a case of respiratory derangement without tape-measure, callipers, cyrtometer, thoracometer, stethograph, spirometer, pneumatometer, &c. In spite of the tendency to the use of machinery betrayed by these two chapters, the book is a good one, practical and useful. It is well printed, also; though we noticed a few trifling errors, as "harrassing" and "æration."



Dr. Fothergill's aim is higher than Dr. Brown's. He wants to help, not the student, but the young practitioner "entering upon private practice." If the young practitioner has been educated in a hospital where careful clinical teaching is given, and has benefited by the aid of such books as Dr. Brown's, he will not find much that is new, and at the same time useful, in Dr. Fothergill's more pretentious work. The slipshod, "confidence" style of the latter is most objectionable, and we should like to have the author at the "examination-table," and ask him to parse some of his own sentences; for instance, "Four minutes' immersion, and the person is dead, as a rule," or "neither were fools." A copious eruption of notes of admiration is a symptom of great value in the diagnosis of style; it indicates debility accompanied by flatulence; and it is well marked in this case.

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*Lectures on Practical Pharmacy.* By BARNARD S. PROCTOR, formerly Lecturer on Pharmacy at the College of Medicine, Newcastle-on-Tyne. Second edition. Illustrated. London: J. & A. Churchill. 1883. Pp. 493.

THIS the second edition of Mr. Proctor's excellent lectures, although intended, like the first edition, chiefly for pharmaceutical students and pharmacists, will afford much useful information to medical men. Without some knowledge of pharmacy no practitioner can write accurate prescriptions; and, further, no one can expect to be an "elegant" prescriber unless he possesses some practical acquaintance with the art of pharmacy as it is expounded in the volume before us. It may, of course, be said that all a prescriber has to do is to consult a pharmacist when in doubt as to the best mode in which certain substances or combinations he may desire to order can be compounded. This is true, and both patient and doctor would often be the gainer if such a course were more frequently adopted, even were it always practicable. At the present time, owing either to ignorance or laziness, the tendency seems to be to ignore legitimate prescribing altogether. Indeed it is by no means an unusual practice among some medical men, when called upon to prescribe, to do so not from any study or knowledge of their own of drugs or of disease, but with the aid of the last list of formulæ of "selected remedies," or of "pills" or "granules," with perhaps an accompanying "Index of Diseases," that may have been sent to them by the active agent of some enterprising drug

firm. Such a system of routine book-prescribing, although it may have some conveniences, is, we think, derogatory, and as likely to become injurious to the profession of medicine as to that of legitimate pharmacy, and certainly cannot add to the credit of either. If the public, as they surely will, find that they are being habitually dosed by book formulæ, they will probably, by procuring these lists for themselves, take their dosing into their own hands; and it is not impossible that, in some cases, by running his eye down the list, a patient might select as good a "combination" for himself as would have been made by a practitioner who adopts such a system of prescribing.

Mr. Proctor, in addition to the explanation of the different technical processes of the pharmacy, gives useful notes on some of the special modes adopted in official formulæ, and offers some valuable suggestions in view of the issue of a new Pharmacopœia. Numerous hints to prescribers are scattered throughout the pages, and the chapters on the pharmacy of special important drugs—such as cinchona and opium, gum-resins, phosphorus, iodine, mercury, and iron—will repay perusal. The appendices contain several useful tables, notably one on the solubilities of pharmaceutical bodies. The collection of facsimiles of autograph prescriptions at the end of the volume should be a warning to bad and careless writers of the trouble and inconvenience, as well as danger, their negligence may lead to.

#### MOSS AS A DRESSING.

Turf has been sometimes used topically as a dressing for suppurating wounds. Its absorptive property is due in a great measure to the moss which it contains. M. Nagedorn employs fresh moss in the same manner, dried at a temperature of 105° or 110° C. in a stove, and placed in pillows. In using this with the antiseptic dressing, a small cushion of gauze, impregnated with a solution of corrosive sublimate, is first applied; then a larger cushion, to cover the field of operation, and then a third still larger, the whole being maintained by bandages. This dressing is sprinkled, as necessary, with an antiseptic fluid.—*Journal de Méd. de Paris*, December 15, 1883, and *Medical News*, Jan. 12, 1884.

## REPORT ON OBSTETRIC MEDICINE AND SURGERY.

By WILLIAM C. NEVILLE, M.A., M.D., Ch.M., and M.A.O., Univ. Dubl.; Fellow and Member of Council, Academy of Medicine in Ireland; and late Senior Assistant Physician, Coombe Hospital, Dublin.

### I. CORROSIVE SUBLIMATE AS A DISINFECTANT IN MIDWIFERY.\*

ANTISEPTIC midwifery is no longer an idea, but a fact. The practical application of Listerian principles, however imperfectly, in lying-in hospitals, abroad and at home, has been attended by such a surprising and unlooked-for success that the mortality of childbed in the best managed of these now approximates closely to that of private practice. And this, too, despite the special dangers and difficulties which are inseparable from institutions largely used for purposes of clinical study. Hence the question no longer is one of the possibility but of the improvement of antiseptic agents and procedures as applied to the minimising the risks of childbirth. To this question the papers published in the September numbers of the *Centralblatt*, and that of Kehrer, read in the Obstetric Section of last autumn's Congress of German Naturalists and Physicians, at Freiburg, form important contributions.

It becomes daily more important for us to know the most efficient disinfectant during labour and childbed, now that, as Toporski observes, the idea of infection has permeated into lay circles, and that the medical man or the nurse is so commonly held accountable for the outbreak of a puerperal fever. But, in truth, our antiseptics is as yet imperfect, and must be doubly so until our midwives are intelligently taught to understand and practise its principles.

Koch ("Mittheilungen aus dem Kaiserlichen Gesundheitsamte,"

\* 1. Toporski: Das Sublimat als Desinficiens in der Geburtshilfe. *Centralblatt für Gynäkologie*. Sept. 1, 1883. 2. Wiedow: Zur Frage der Antisepsis während der Geburt. *Ibid.* Sept. 15. 3. Kehrer: Vaginal Injectionen von Sublimatlösungen in Puerperio, in the Proceedings of the German Congress of Naturalists and Physicians. Freiburg, September, 1883. *Archiv. für Gynäkologie*. Band 22. 4. Bröse: Das Sublimat als Desinficiens in der Geburtshilfe. *Centralblatt für Gynäkologie*. Sept. 29, 1883.

Bd. I., p. 234, "Ueber Desinfektion") first published his conclusions as to the relative values of different disinfectants in the year 1881. He experimented on anthrax spores and bacilli. The spores, he found, could be destroyed by seven days' immersion in a 3 per cent., or a two days' immersion in a 5 per cent., solution of carbolic acid. A 10 per cent. solution would probably be needed to destroy the spores immediately. A one per cent. solution, on the other hand, sufficed to kill the mature bacilli within a few minutes. Much more marked were the powers of corrosive sublimate solutions. Even a .1 per cent. solution destroyed the spores in a few minutes. Koch concluded from his researches that the use even of very weak solutions of corrosive sublimate formed the most powerful of all known measures for disinfection.

Koch's conclusions were quickly subjected to the tests of clinical experience in most of the departments of general surgery, and their practical verification led naturally to the trial of corrosive sublimate solutions as a disinfectant for obstetric purposes. Some of the results of these trials we have in the papers before us, the first of which—that of Toporski—comes from the Breslau clinic, under the direction of Prof. Fritsch. The paper is based on a six months' experience of corrosive sublimate, used as follows:—A quantity of .1 per cent. solution is prepared and kept in large glass vessels, both in the labour and lying-in wards. Before examining any of the patients, all students and others are ordered to wash their hands and forearms with soap and nail-brushes in this solution, removing their coats and tucking up their shirt-sleeves. Before and after an examination the vagina is washed out with the same, or, in some cases, with a .05 per cent. solution. For this purpose glass irrigators are to be used, and, as metals are roughened and corroded by the solution, instruments are washed before use in a 5 per cent. solution of carbolic acid.

So far as very limited figures allow us to judge, the results of a six months' experience have proved encouraging. Toporski compares with them the results obtained by the use of carbolic acid solutions during the corresponding six months of the previous year, 1882. During these periods 120 patients were treated in the method described, and 129 by carbolic acid. One patient died from septicæmia, during each six months, but Toporski claims that the death during the use of corrosive sublimate was clearly shown to have been due to the negligence of one of those who had examined the patient, in not having disinfected himself properly

after contact with foul wounds. The average stay in the hospital of patients under the sublimate treatment amounted to about nine days; under the carbolic to nearly 11·5 days. Only 7·5 per cent. of the former, as against 16·27 per cent. of the latter, suffered from forms of puerperal disease; and the sickness was also graver and of longer continuance where carbolic solutions were in use.

Toporski directs attention to the advantages which, in regard to cheapness, corrosive sublimate possesses over carbolic acid. He estimates that a ·1 per cent. solution of the former is six times as cheap as a 3 per cent., and ten times as cheap as a 5 per cent. solution of carbolic acid. He denies that one solution is more dangerous to use than the other, necessary precautions being taken to keep both in safe places. His experience enables him warmly to recommend a trial of corrosive sublimate in other maternities.

Dr. Wiedow reports on the methods of using and the results obtained, in Hegar's clinic, by corrosive sublimate instead of carbolic acid solutions for nearly twelve months. "On an average, five students are called to and examine each labour patient. It is understood that none of these have touched infectious matters for at least forty-eight hours previously, and that they have not worn the same clothing in infected places for eight days previously. When about to examine they take off their coats and turn up their shirt-sleeves over the elbows. They then rub their hands with oil of turpentine, and wash them in soap and water, cleansing the nails with a knife. The hands are then again washed in a strong solution of permanganate of potash with soap, cleaned and dipped for a moment into a ·1 per cent. solution of corrosive sublimate. The examination is then made with the fingers moistened with carbolic oil. Before and after each examination the vagina is washed out with a sublimate solution (1 : 5000). The students are not allowed to examine except in the presence of an assistant physician."

Out of 144 patients thus treated between July, 1882 and June, 1883, two died; one directly from hæmorrhage, due to central placenta prævia, and the other from chronic pelvic caries, having fistulous communications with the peritoneal cavity. There were only six cases of disease during the puerperal period—two of "thrombosis and embolism," two of vesical catarrh, and two of pneumonia. These results compare favourably with those given for the four previous years, during which carbolic acid was used as the disinfectant.

Kehrer introduced this disinfectant into the Heidelberg clinic in April, 1882. At first he employed a 1 : 2000 solution; more

recently one of 1:4000. He makes the solution by dissolving five parts by weight of the corrosive sublimate in 200 of water. Ten cubic centimetres of this strong solution are then added to a litre of water. The vaginal mucus, he thinks, forms a nidus for the bacteria, which may readily be introduced with it into the cervical canal by the examinations made during the first stage of labour. He, therefore, advises the preliminary removal of this mucus by injections, combined with the use of the fingers, or of cotton-wool soaked in the solution and grasped in a forceps. Injections are also made after removal of the placenta, and twice daily during childbed so long as the lochia persist.

Two hundred and twenty-one patients have been treated by him in this way. In only one-third of these was there any rise of temperature during childbed, while in previous years, under the carbolic solutions, more than three-fourths of the patients suffered from some amount of fever. Eight of the 221 patients suffered from œdema and puerperal ulcers of the vagina; six from para- and perimetritis; one, who had suffered from prolapse of the uterus during pregnancy, from metrophlebitis and metastatic pneumonia with recovery; and one from a fatal sepsis caused by the retention, for twenty-four hours, of a dead and decomposed foetus in the uterus. Yet the local affections were fewer and slighter than under the use of carbolic solutions.

Among the other results of this practice Kehrer notes the shrivelling effect the sublimate injections have when frequently used on the skin and mucous membranes. In four of his patients he observed a slight urticaria spreading from the genitals, which were dressed with wool soaked in the solution, over the trunk and extremities. The eruptions disappeared, however, in each case three or four days after the treatment was discontinued. In one puerpera, and in three gynaecological patients (who had previously been under mercurial treatment), a mild stomatitis had supervened. He had never seen mercurial symptoms in the case of patients who had not previously been taking mercury in some form.

In the discussion on Kehrer's paper, Hegar expressed his opinion that no better antiseptic than corrosive sublimate could be required. Schatz (Rostock) had seen one case of salivation resulting from the treatment in a woman with a very narrow vulva, which had probably prevented the escape of some of the fluid. Kaltenbach (Giessen) used solutions of a strength 1:1000 for washing the hands; 1:2000 for vaginal injections; and 1:3000 for irrigations in operative cases,

with the best results. He also employed it for disinfecting sponges. Dr. P. Bröse reports on the results of a six months' trial of corrosive sublimate solutions in Schroeder's Berlin clinic. The methods of using them, and the precautions as to students introducing septic matter among the patients, were here very like those at Freiburg. Vaginal injections were made with a .2 per cent. solution, and were well borne by patients, those only who were suffering from granular vaginitis complaining of the smarting which they caused. Generally much less complaint was made than had been the case when 5 per cent., or even 3 per cent. solutions of carbolic acid had been used. In one case of induction of premature labour, the vagina was washed out twice daily for seventeen days, at first with .2 per cent., and afterwards with .1 per cent. solutions, the only complaint of smarting being made towards the end of the time, when the vaginal epithelium had become shed in places.

The results obtained were better than those of any previous like period in the Berlin maternity. Only 11 out of 330 patients suffered from puerperal diseases in any form, and one of these had been for a long time in labour under the care of a midwife before being admitted to hospital. Two of these patients died—i.e., .6 per cent. of the entire number. One death followed prolonged labour in the case of a patient with a generally contracted pelvis, a difficult version being complicated by tetanus uteri. *Post-mortem* examination showed that the uterus had been considerably injured, and in one spot perforated. The second death was from septic peritonitis following a forceps delivery in a first labour. The puerperal diseases observed were very mild in character, the patients leaving hospital from the thirteenth to the sixteenth day of childbed. That these results were remarkably good is shown by the fact that among the 330 patients, placenta prævia occurred 4 times (once central), the forceps was needed 27, turning 19, and manual removal of the placenta 4 times. Among them also were two cases of induction of premature labour.

Adding together the reports from the Breslau, Freiburg, Heidelberg, and Berlin Hospitals, we find that in all, 824 patients have been treated as described with a total mortality from all causes of 6—i.e., .72 per cent., or 1 in 137, and a total morbidity of 62—i.e., 7.5 per cent., or 1 in every 13.3 cases. In the different maternities of Paris we hear also that corrosive sublimate has lately been adopted as the cheapest, most harmless, and most efficient disinfectant during labour. These facts cannot but justify

the general introduction of corrosive sublimate into midwifery practice, and we hope soon to learn the results of its trial from many quarters in this country. Already, we are glad to learn, it has been introduced into the wards of the Rotunda Hospital by the present Master, Dr. Macan.

## II. THE TREATMENT OF ABORTION.\*

Few questions in obstetrics are of more practical interest than the proper treatment of abortion. Hegar has estimated that one abortion occurs for every ten labours at term, an estimate which is certainly rather low than otherwise. Lusk, accepting Hegar's estimate, concludes from the mortality statistics of New York for eight years, that the immediate mortality from abortion is about the same per cent. as that from puerperal fevers, though he believes that the deaths from both causes are inadequately represented by the official returns. Apart, however, from the mortality immediately resulting from them, abortions are universally admitted by gynaecologists to be among the most potent exciting causes of chronic uterine and peri-uterine diseases. Having regard, then, to their frequency, as well as to their immediate and remote dangers, we must regard the proper management of abortions as a question possessing an equal importance to the general practitioner and to the specialist.

The treatment of abortions ranges itself under three heads: as *prophylactic*, or instituted for the purpose of guarding against an abortion which the histories of previous pregnancies would seem to render likely; as *preventive*, or such as aims at putting a stop to a threatened abortion, the initial symptoms of which are actually present; and as *accelerative*, or such as becomes necessary when the abortion is sufficiently indicated as inevitable. We shall consider the last only in this report, as it is that with which the papers quoted above deal.

The objects of these reports will probably best be fulfilled by reviewing briefly, in the first place, the questions which the papers before us put at issue.

\* T. J. Alloway: The Immediate Use of the Uterine Scoop or Curette in the Treatment of Abortions. *Amer. Journal of Obstetrics*. February, 1883. P. F. Mundé: The Immediate Removal of the Secundines after Abortion. *Ibid.* U. H. Farr: The Active Management of Abortion. *Ibid.* September, 1883. Spöndly: Ueber das Active Einschreiten bei Abortus. *Zeitschrift für Geburtshilfe und Gynäkologie*. Band. IX., Heft. 1.



Previous to the tenth week of pregnancy the connexions between ovuline and maternal structures are so slight that an abortion which cannot be evaded usually terminates in the easy and complete shedding of the ovum. After the twentieth week the progress of events is very similar to that of a premature labour. But between these dates, and chiefly during the fourth month of pregnancy, perplexing conditions are peculiarly apt to manifest themselves. Leishman describes these conditions well:—"The placenta then forms a close anatomical connexion with the uterine tissues, and with the maternal vascular apparatus, connexions which are often to be severed only with the greatest difficulty. The uterine contractions suffice, in many instances, to burst the ovum and discharge the foetus, and when the cord breaks, uterine action ceases. But instead of a speedy recurrence of the pains, and a natural and unaided expulsion of the placenta, the uterus remains quiescent, the os closes, and the placenta, with the membranes, is retained, sometimes for hours only, but often for a much longer period, extending to eight or ten days, or even more. . . . A return of the pains, after a very variable period, marks a renewed effort on the part of the uterus to rid itself of its contents. If a considerable time have elapsed, the os will have closed so firmly that a tedious process, which is conducted at great mechanical disadvantage, is necessary for its dilatation. This process is often attended by alarming hæmorrhage, as it is only now that the utero-placental vessels are being severed, and this hæmorrhage may only cease on the expulsion or extraction of the placental mass."

Besides being finally expelled with much difficulty and hæmorrhage, these retained secundines may undergo putrefactive changes and be expelled only after giving rise to a septic fever; or a fragment of the placenta may remain adherent, forming the starting point of the so-called placental polypus. Such terminations as the absorption of the retained placenta—the little evidence in favour of which has been very carefully reviewed and rejected as inconclusive by Hegar—or the permanent sojourn of metamorphosed secundines in the uterus, can scarcely be said to come within the range of practical obstetrics.

Though the results in the great majority of cases are favourable, yet it is to be remembered that almost the entire mortality and most of the chronic diseases which depend upon abortions, are referable to cases which have been complicated by retention of the secundines. It is in the course of such cases that protracted

hæmorrhage is most often, and septicæmia almost solely, encountered. Hence an abortion between the tenth and twentieth weeks—i.e., during the period when retention is most frequent—must be viewed as an accident entailing special risks to the patient as well as considerable perplexity to the medical attendant; and, indeed, both risks and perplexities have been added to by the conflicting or uncertain views which have been and are current on the question of treatment applicable to such cases. The authors of text-books and of monographs on this *questio vexata* cannot be divided into any well-defined groups, every line of treatment having been advocated, from one of pure expectancy to one of the most active intervention.

Leishman advocates simple expectancy when after the expulsion of the embryo the os closes and the secundines are retained. Unless hæmorrhage is profuse we are to do nothing. "When, after an interval of hours or days, as the case may be," hæmorrhage and uterine action recur, we should plug the vagina and await dilatation of the os. If we can control the hæmorrhage in this way, we must wait for evidences of complete separation of the ovum, or until the os is well dilated. The ovum may then be removed by scooping it out with one or two fingers introduced into the uterus. The use of any special instruments for removing the ovum is discountenanced as more fraught with danger than ordinary manipulation. If failure results with the fingers, plugging and ergot are again resorted to.

Charpentier, a representative of current French opinion, advises an almost identical line of action. In like circumstances he would plug, give ergot, and procrastinate. Where, however, putrid discharges, associated with fever and quickened pulse, made it clear that the patient was suffering from putrid poisoning or septicæmia, he would no longer hesitate to remove the now putrefying ovum. Should the os be undilated it must first be dilated with laminaria, sponge-tents, or Tarnier's dilators—preferably the latter. When dilated the ovum should be removed by digital manipulation, or, should this fail, by forceps, or Pajot's curette.

Playfair also advocates what is mainly an expectant line of treatment, though, following Simpson and Barnes, he appears disposed to recommend that where the hæmorrhage has been profuse, or where the discharges are fœtid, the os should be forcibly dilated by tents. He also recommends the use of the fingers, combined with bimanual expression (Höning), for the

delivery of the ovum. He makes no mention of the sharp spoon or curette.

Lusk discards the vaginal plug should it have failed at the end of twenty-four hours. "Its continued use is apt to irritate the vagina. In spite of carbolic acid it acquires an offensive odour. It generates septic matters, which in the long run creep upward through the vagina into the uterine cavity, and produce decomposition of the ovum. I prefer, therefore, in cases of undilated cervix, after twenty-four hours of vaginal tamponing, to resort to sponge-tents." Digital extraction is then to follow forcible dilatation. The ovum-forceps is dangerous and needless. Other instruments are left unmentioned, and Höning's manoeuvre is stated to have but a limited applicability.

Among German authorities Zweifel's advice corresponds in the main with that of Charpentier. When the ovum has ruptured and is retained with hæmorrhage, Spiegelberg advises that the vaginal tampon should be employed for a short time, but rejects its continued use on the same grounds as those stated by Lusk. He recommends a trial of Höning's method, and of manual extraction; but, should these fail from any cause, recourse is to be had to the use of a sharp spoon (Simon's or Bœters'), or, better still, to that of a fenestrated curette. The use of these instruments a large experience enables him to recommend as being very safe and convenient, the *débris* which remains in the uterus being immediately washed out with an antiseptic solution. Very seldom has he found it necessary, in employing this method, to dilate the cervix previously by the insertion of tents, which increase the dangers of infection. While using the curette the patient lies upon her side, and the uterus is fixed by a tenaculum inserted into the anterior lip of the cervix. Retained secundines must be at once removed according to Schröder. Under chloroform the cervix will almost always be found permeable by the finger. In cases of difficulty he recommends bilateral division of the cervix, after which the fingers alone usually suffice for emptying the uterus. The divided cervix is then to be stitched up. For the removal of decidual remnants, where the cervix may be impermeable, Schröder advises the use of a sharp spoon.

Hart and Barbour, referring to the general management of abortion, writes as follows:—"The patient should lose as little blood as possible; hence, when an abortion is imminent, the case should not be allowed to drag on for days in the hope that the abortion may

be staved off. . . . *The uterus should be completely evacuated.* . . . The vagina having been washed out with carbolised water, a large-sized sponge-tent is to be passed fairly into the cervix. . . . After eight or ten hours the os should be sufficiently dilated to admit one or two fingers. Chloroform is then given, the tent removed, and the uterus emptied by two fingers separating and hooking down the entire ovum. This procedure may require that the entire hand should be passed into the vagina, and is to be aided by pressing the uterus downwards through the abdominal walls. The uterine cavity is then to be slowly washed out with a hot carbolised douche, and ergotin given hypodermically."

We have quoted these leading authorities, because the diversities of opinion prevailing among them—especially in relation to the treatment of retained secundines—show conclusively that the whole subject must be regarded as being still *sub judice*. The series of papers which have lately appeared in the *American Journal of Obstetrics*, form a valuable addition to the evidence which must be accumulated before any unanimity can be expected upon the questions they raise. In the October number, 1882, of the *American Journal of Obstetrics*, Dr. Mundé, having narrated the history of a patient in whom retention of the placenta after abortion had been followed by septicæmia and death, writes as follows:—"This instance but confirms me in the belief which I have often expressed before, that *every* placenta after abortion should be removed *at once*, manually or with instruments (chiefly the large blunt curette), provided the patient be in a condition to bear and not be injured by the manipulation. My experience tells me that such an exception is but rarely met with, and that the *careful, gentle* detachment of the placenta by the finger or dull curette, and its withdrawal by blunt, broad forceps, is attended with but little danger, and seldom followed by inflammatory reaction."

These views are practically those which have since been supported by Drs. Alloway and Farr, and reiterated by Dr. Mundé in the papers before us. Dr. Alloway uses the dull curette devised by Mundé for the removal of retained placenta *"immediately after the accident."* As it seems to us, he very properly criticises the policy of almost absolute non-interference, or of repeated tampons recommended by Leishman. He is not equally successful in his attempt to show that Lusk's method of procedure, of "cleaning out the uterus" by one or two fingers, is in many cases impossible. Indeed, we have ourselves often performed this manœuvre without

much difficulty, and without causing more than a very moderate amount of suffering to the patient. He bases his argument upon the average length of the forefinger, and upon the *normal* position and mobility of the uterus, as stated by Mundé and Savage. But we quite agree with Barnes' observation, that "generally the uterus in abortion is low in the pelvis; and, the vagina being relaxed, it is not difficult to reach the os. There is a characteristic dilatation of the fundus vaginæ whenever the uterus is acting to expel something with hæmorrhage." The introduction of the entire hand into the vagina is not often required, though in multiparous women it can easily be done under chloroform, if necessary. But Dr. Alloway's cases, so far as they are reported (five out of thirty), go to show that a small curette may be successfully used without such previous dilatation as would be required for the free use of the fingers. He concludes his paper by quoting opinions of Drs. Mann, Skene, Næggerath, and Thomas, among other American authorities, all strongly in favour of immediate removal of retained secundines by the curette. Dr. Mundé's paper describes the operative procedures more in detail. He admits that the fingers will often suffice where the cervical canal is patulous and the abdominal walls lax. He uses the curette in preference to waiting for the tedious artificial dilatation of the cervix, which might be essential for the use of the fingers. He figures this instrument, which "is merely an enlarged Thomas's copper wire curette, of which I have had two sizes made attachable to the same handle, the one broad and round, the other more oval for a less dilated uterine canal. The method of using this instrument is the following:—The patient (anæsthetised or not) is laid crosswise on the bed, with her hips as near as possible to the edge, and her thighs separated by assistants if necessary. The physician then introduces the index finger, and on it the large curette (the instruments all being placed in carbolised water), into the uterus, and while the left hand steadies the fundus uteri through the abdominal wall, the right gently guides the curette in its prying and scraping action on the placenta. A repeated introduction of the instrument is often necessary before piece after piece of the secundines is detached, and the placental forceps is occasionally needed either to grasp and withdraw already detached portions of the secundines, or to nip off small modules of still adherent placenta." After as complete a removal as possible of all fragments, "the uterus is to be washed out with a 2·5 per cent. solution of carbolic acid, the water used

being either very hot or very cold. M. prefers iced-water, being more sure of its styptic effects." He has "never failed to see perfect contraction of the uterus after emptying it of its contents, whether the injection was hot or cold, and immediate arrest of hæmorrhage has been the invariable result of this treatment." Where the secundines, previous to removal, have been decomposed, the uterine cavity is advised to be syringed or mopped out with pure tinct. iodi., through a speculum. Probably in future a solution (1 : 2000) of corrosive sublimate may advantageously be used as a disinfectant in all such cases, instead of either carbolic acid solution or iodine.

The curette is to be used *only* for detaching adherent secundines, their removal being effected by the fingers or placental forceps. Mundé uses tupelo, in preference to sponge or laminaria, tents for dilating the canal when too contracted to admit the index finger or curette. Tupelo expands almost as rapidly as sponge, often procuring sufficient dilatation within a few hours, and is much less likely to cause septic symptoms. As it can be had of almost any size up to that of a thumb it is more convenient to use, as it is also quicker to expand than a faggot of sea-tangle tents. The Molesworth water-bag dilator is mentioned with some slight approval; but Hegar's dilators, which would certainly act safely and quickly in these cases, are not alluded to. We should ourselves prefer these, or some similar dilators, such as Fritsch's, to the use of any tents, which are all open to the objections of being comparatively tedious, and dilating unevenly. But in the majority of cases, as Mundé remarks, the finger itself forms the readiest and best dilator.

Dr. Mundé emphatically states that "all this manipulation is so free from danger that every physician can employ it," and that the risks attendant on it are much less than those incurred by a policy of *laissez faire*. Intelligently and gently performed, the manipulations necessary are devoid of danger. During fourteen years he has "removed secundines fifty-seven times by fingers and curette, with but one fatal result" (from septicæmia present before the operation), "and one cellulitis, which might have been due to putrescence of the decidua before its removal." A table of these 57 cases is appended, from which we learn that the curette was used in 32, and digital extraction in 20 of them. In the few remaining cases (5) the ovum was either expressed, or found loose in the vagina after the preliminary use of tampons, tents, or ergot. Artificial dilatation is noted as having been used four times—twice

with curette, and twice with ergot only; tampons and ergot only in two of the series. What is most significant, however, in the table is the length of time for which the secundines had been retained in the various cases recorded. The periods of retention vary greatly: less than 1 day, 16; 1 day to 1 week, 33; longer than 1 week, 6. Thus only in a small number of the cases can the removal of the secundines be said to have been immediate. Among the symptoms calling for removal we find hæmorrhages noted in 44, exhausting hæmorrhages in 8, and septicæmia in 5 cases. Though the greater number of these cases, therefore, do not directly prove that immediate removal of secundines by the curette, or otherwise, is absolutely essential; yet the good results obtained under very disadvantageous circumstances do indirectly tend to strengthen our confidence in the harmlessness of the measures recommended. Had interference been sufficiently timely and the same in kind, the life of the one patient who died would almost certainly have been saved. The fact that 30 of the cases were seen in consultation may go far towards explaining why intervention was, in so many cases, so long delayed. Scarcely would Dr. Leishman deny that expectancy had been pushed beyond the limits of expediency in some of these cases, which show with sufficient clearness the dangers of too confiding a trust in the "*vis medicatrix naturæ*." An abortion cannot be abandoned to nature as if it were a physiological act; it is pathological in its inception, in its progress, and in its consequences, and its dangers are minimised by a due regard rather to the maxim, "*sublatâ causâ, tollitur effectus*."

Dr. Farr's paper follows on the same general lines as those of Alloway and Mundé. He uses, however, for the removal of the ovum the curette-forceps, designed by Emmet for the treatment of polypoid fungosities of the endometrium. The fine blades of this instrument renders its passage through an almost undilated cervix a matter of ease, but we cannot believe, despite Dr. Farr's experience, that it is really an efficient instrument either for detaching or removing the ovum. We must, moreover, emphatically dissent from such a practice as that of proceeding to detach and remove retained and perhaps adherent secundines by what must be the haphazard use of instruments, unguided and uncontrolled by the simultaneous use of at least one finger in the uterine cavity. Such a removal would very probably be incomplete, leaving the patient in worse plight than before. None of these measures should, we think, be undertaken save under con-

ditions which render their safe and complete performance not only possible but almost certain. Dr. Farr's synopsis of sixteen cases treated in the way mentioned is open to the same criticism as that of Dr. Mundé. In only two were the secundines immediately removed. Dilatation (by sponge-tents) was only once practised. The results were uniformly good. Towards the close of this paper it is very well stated that "in the rapid removal of retained secundines we are carrying out antiseptic principles," and at the same time safeguarding against hæmorrhage.

Against the measures recommended for adoption by the American writers we must put the experiences of Prof. H. Spöndly, of Zurich. He also is a decided advocate for active interference so far as it is required for the immediate emptying of the uterus in cases of inevitable abortion or retained secundines. He relies, however, almost entirely on the use of one or two fingers, and administers an anæsthetic whenever it may be necessary for the proper use of these to introduce the entire hand into the vagina. A vaginal tampon may be employed for a time to check hæmorrhage and excite uterine action and cervical dilatation. Beyond this means and the use of the finger he found no special methods of dilatation necessary in any of the fifty-three cases recorded.

We may briefly state our own views on the questions before us. We endorse the views put forward by all of the writers so far as they relate to the desirability of immediate action when an abortion has once been recognised as inevitable, or when secundines have been retained. On the former point we regard an abortion as inevitable when "*serious flooding*" has once occurred, even though cervical dilatation and signs of uterine action may be wanting. The hæmorrhage may recur suddenly, and with disastrous consequences, at any subsequent moment, and the chances of finally saving the ovum are so small as in no wise to let us jeopardise the safety and well-being of the mother on its account. Trivial hæmorrhages have no such certain significance, but continuous oozing of blood from the uterine cavity for some days would also make us act promptly in the interests of the mother. The os being undilated, we would use the vaginal tampon twice for six to nine hours at longest at a time. Should the cervical canal still remain closed, or undilatable by the fingers, we would proceed to dilate it so as to admit one finger easily by Hegar's dilators in preference to any form of tents. We would then dilate as much as was further required, and clean out the uterus with the fingers, assisting



these, if necessary—as we believe it would only exceptionally be—by Mundé's blunt curette. An anæsthetic should be given in most difficult cases, necessitating the complete introduction of the hand into the vagina. Strict antiseptic precautions should unswervingly be adopted. Before the operation, the hands are to be washed in a 1:1000, and the genital tract syringed out slowly with a 1:2000 solution of corrosive sublimate. After the removal of the ovum, the uterine cavity is again carefully to be douched with the same solution. If instruments are used they are to be first immersed in a 1:20 solution of carbolic acid. We have found that the vaginal tampon becomes foul much less quickly when the vagina, previous to its use, is washed out in the same manner. Salicylated cotton-wool makes the best tampon. We should prefer, in every case, to discard the use of tents—especially of spongetents—as being an unsafe, comparatively tedious, and irregular means of obtaining dilatation.

[To be concluded.]

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#### ATROPHY OF THE BRAIN FOLLOWING AMPUTATION OF A LIMB.

M. BOURDON has communicated to the Academy of Medicine the case of a man aged sixty-six, who forty years previously had the left arm disarticulated, and who had died of meningo-encephalitis. He had never presented any cerebral symptom, save that during the latter years of his life the leg, on the same side as the amputated arm, had gradually become paralysed. At the autopsy were found—1st, traces of the congestion which had caused death; 2nd, over the right hemisphere a sinking of three or four millimetres in depth in the superior third of the ascending frontal convolution, continuing along the paracentral lobule; 3rd, on the same side the lateral ventricle has been enlarged to such an extent that at the level of the atrophied convolution the thickness of its upper wall is only four millimetres, whilst that of the opposite wall is fourteen; 4th, the corpus striatum presented a depression in its middle third, and the optic thalamus was flattened, especially in the vertical direction; 5th, the right hemisphere weighed 31 grammes less than the left—a difference which represents about the size of a hen's egg of brain tissue. This case, added to six others published by the same observer, goes to show that the amputation of a limb can lead to an atrophy of the motor zone of the cerebrum, and that this atrophy can extend to the white substance underlying it. The primitive lesion gradually invaded the cells and nerve fibres which regulate the movements of the limb corresponding to the limb which had been removed, as there was no tumour, nor centre of softening nor hæmorrhage to account for its paralysis otherwise.—*Montpelier Médical.*

S. W.

## PART IV. MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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### ACADEMY OF MEDICINE IN IRELAND.

President—J. T. BANKS, M.D.  
General Secretary—W. THOMSON, M.D.

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#### SURGICAL SECTION.

President—WILLIAM IRELAND WHEELER, M.D., President R.C.S.I.  
Sectional Secretary—WILLIAM STOKES, F.R.C.S.I.

*Friday, December 7, 1883.*

The PRESIDENT in the Chair.

#### *Living Specimens.*

MR. STOKES.—Case of excision of the knee-joint for caries in a patient aged thirty-six. MR. BENSON.—Case showing appearances of Jequirity ophthalmia. MR. BARTON.—Case of double tibial osteotomy. MR. LAMBERT H. ORMSBY.—Case of osteotomy for genu valgum.

#### *Specimens Exhibited by Card.*

MESSES. THORNLEY STOKER, HAYES, STOKES, LAMBERT H. ORMSBY, and MR. M'ARDLE exhibited specimens by card.

#### *Removal of Naso-pharyngeal Tumour.*

MR. THORNLEY STOKER read a paper on the Removal of Naso-pharyngeal Tumours. He dealt only with those growths with broad bases of attachment, which are properly called tumours as distinguished from pedunculated growths or polypi, and the essential character of which is that while lying in the naso-pharyngeal cavity, and invading other situations, they primarily spring from the base of the skull. He detailed two cases in which he had operated successfully—one in 1874, and the other two years ago. In the former case the tumour was fibrous, and was taken away through the anterior nasal opening, access being

gained to the fossa by making an incision along the side of the nose, and enlarging the bony opening by removing the nasal edge of the superior maxilla with a forceps. In the second case the tumour was a mixture of the cartilaginous, sarcomatous, and myxomatous forms. It was of large size, had produced "frog-face," impaired the sight of one eye and ear, and injured the sense of smell. It was also removed by an anterior operation. The nose was divided along its dorsum, its halves turned aside, and the tumour removed by scooping and scraping. It involved the bony roof of the nose and pharynx, and three upper cervical bodies, large portions of which had to be taken away with the disease. The patient made a most unexpected recovery, and is now in good health. His eyes have approximated to each other, and his hearing is completely, and his sight and smell partly, restored. Mr. Stoker referred to the principal operations which had been performed in the removal of these growths, but stated that his own observation of naso-pharyngeal tumours led him to the belief that in the great majority of cases such heroic measures as operations through the palate by removal of the superior maxilla, or by displacement of it, are unnecessary, and that the disease can generally be attacked and taken away through more limited openings than these operations afford. For coming to this conclusion he had two chief reasons—first, that the growth of the tumour has, by the time operation is demanded, generally separated the superior maxilla to a considerable extent, so that as the surgeon cuts away the disease he finds his fingers in a cavity where he has room enough for action and exploration; and secondly, that the rough kind of scooping, gouging, or cutting, which is the most efficient means of attacking these tumours when the surgeon proceeds to remove them, does not require much space for its exercise. He did not wish to be understood as denying the necessity of the more formidable operations in some cases. What he sought to convey was that cases which, to all appearances, require these extreme measures may be radically dealt with by minor means. He did not think a surgeon could even say with certainty what steps he might have to take when beginning to operate, and should therefore commence with such a measure as one of those detailed, and alter his hand if he found it insufficient. Photographs, both before and after operation, were shown of the case in which the nose had been divided along the dorsum—an operation in some respects different from any procedure previously adopted, and free from the objection of producing deformity.

MR. THOMSON, in opening the discussion, said he was present at the operations, and he could bear out thoroughly what Mr. Stoker had said as to the gravity of them. Undoubtedly Mr. Stoker had been extremely fortunate in not having had any return of the tumours in those cases. He had himself had under observation a case which had been under the care of Dr. Robert M'Donnell a couple of years ago. A boy named

Richardson, who had come from Limerick, was suffering from naso-pharyngeal tumour, and from his description it appeared that Dr. M'Donnell had removed the tumour through the mouth with a snare. When the boy came to him in January last, the left side of the nose was filled with a large tumour, which could be felt projecting into the pharynx behind. Having failed to get it away by snaring, he determined on a more severe procedure. He slit up the side of the nose, dividing the nasal bones with a forceps, and he was then able, by passing one finger into the mouth through the pharynx, and the other through the nares, to get at the fragment of the tumour. It was attached to the septum of the roof of the nasal cavity. The attachments to the roof of the mouth being slight, he was able to break them down, and remove the tumour in one mass. In three weeks afterwards the boy went away well. Last month, however, he returned, the tumour having recurred, and it presented over the antrum. From the previous history, and the fact that he had taken the tumour out of the antrum on the former occasion, and that it was fixed as it lay, he was under the impression that it had grown again in the antrum, and forcing its way through the anterior wall, had made its exit. Being of opinion that it was necessary to remove the upper jaw, casts were made for the purpose. But when he reflected the cheek, he found it had not gone through the wall, but that it lay on the wall. It passed backwards along the side of the superior maxilla, and escaped through the pterygo-maxillary fossa, terminating in the position described. He was able to pass his finger into the nose, and pulling upon it, he found it had an attachment on the external wall of the nose—the left side. There was nothing to justify the removal of the superior maxilla. Accordingly he wrenched the tumour out of its place, and he could feel the pedicle giving way. The tumour was about the size of his two fingers placed together. It was a single long tumour similar to the one previously removed. The boy had since gone to the country. He mentioned the case to show the virulence of those tumours springing from the naso-pharyngeal parts, and the hopelessness attending the apparently radical operation.

DR. ROBERT M'DONNELL stated that although he had removed several tumours of the kind he had not been so fortunate as Mr. Stoker in their non-return. At the same time some of them had returned only after long intervals. In the case of a National schoolmistress from the West the tumour came through the hard palate. It was gouged away, a large cavity being made through which the finger could pass into the nostril, and the rest of the tumour was taken through the mouth. About six years elapsed before the tumour recurred. The case detailed by Mr. Thomson was a remarkable one. The boy had come to himself in Stevens' Hospital several years ago suffering from a large tumour which pressed forward the soft palate. When that was drawn forward a

roundish mass presented itself which was most inviting for slipping a noose round. He had tried to snare the tumour, but without success until Dr. Cruise assisted him in producing an instrument with which to slip the noose backwards. Having snared the tumour, a large piece came away, and it was obvious the noose went through the substance of the tumour instead of around the base. The effect was, however, to lessen the bulk and improve the condition of the patient, so that he went home. After six or eight months he reappeared with a tumour of very large size, which interfered with speech and swallowing, and rendered respiration through either nostril very difficult. His snoring at night was so peculiar that it disturbed all the patients in the ward. With his finger he (Dr. M'Donnell) could feel what seemed to be the base and pedicle of the tumour growing from the same situation somewhat as described in Mr. Stoker's case—namely, from the under part of the junction of the sphenoid with the occipital bone. He was able positively, with the finger of the left hand thrust into the mouth, to feel the attachment. He had determined trying to remove the tumour by putting his finger in and using a gouging instrument passed into the nostril. He removed a piece that surprised him, being very little smaller than an ink bottle. It came with his hand from the mouth. The operation was a most formidable one. The blood was gushing from the mouth and nostrils. When the tumour was taken out the large mass of sponge it took to fill the cavity amazed him. It controlled the hæmorrhage, and the boy made a good recovery. About that time last year he again applied for admission to Steevens' Hospital, but he (Dr. M'Donnell) had been himself obliged to go away, and then the boy fell into Mr. Thomson's hands. He had exhibited the tumour at the Biological Club. It was identical in structure with that described by Mr. Stoker, and belonged, no doubt, to the group of sarcomata, but was of that class in which the connective tissue elements contained cartilage cells verging towards the condition called myxoma.

The PRESIDENT said he had had several cases of naso-pharyngeal tumour under his care, including one very similar to that which had just been mentioned. The tumour had been removed previously, and he was consulted upon its return. It occupied the floor of the nose and the antrum. He removed the upper jaw, which he exhibited at the Surgical Society some years ago. There had been no return of the disease.

MR. THORNLEY STOKER did not reply.

*Case of Gunshot Injury with unusual Thoracic Complications.*

MR. STOKES brought under notice the particulars of a case of gunshot injury of the chest that was under his care in the Richmond Hospital last September. The patient, aged thirty-six, accidentally received the injury at Cabra, and was able to walk to the hospital, a distance of about

a mile, after it occurred. A bullet wound was found over the left scapula an inch from the vertical edge and about  $2\frac{1}{4}$  inches from the inferior angle. The patient was in a state of great prostration on arriving at the Hospital, and suffered from dyspnoea. The area of cardiac dulness was found to be increased, and a distinct tumour about the size of a Tangerine orange to the right of the left nipple, over which a distinct loud crepitating and gurgling sound could be heard, and at a considerable distance from the patient. There was dulness on the lower part of the pleural sac. The day following, the left side was found to be absolutely dull, except at a small space about two inches in diameter, situated a little to the left of the cardiac base, which was distinctly tympanitic. On September 20 the patient's symptoms were very urgent, the dyspnoea and cardiac distress having much increased. Paracentesis on left side of the chest was performed, and fifty-six ounces of a dark reddish serous fluid was drawn off. This was followed by great improvement, which lasted some days. Five days subsequently he suddenly got much worse, a suffocating catarrh of the right lung having set in which nothing checked. The patient died the following morning. The autopsy showed that the bullet had penetrated the scapula, fractured two ribs (the seventh and eighth), entered the thoracic cavity, penetrated the lung, and finally lodged in the angle between the diaphragm and the sixth intercostal muscle. There was a large pleural effusion with numerous flakes of lymph in it as well as in the pleura. On the right side the lung was congested, emphysematous, and with numerous hæmorrhagic infarctions. There was no pericardiac complication. The special points of interest in the case were—the absence of hæmoptysis, the tumefaction over the heart, the loud gurgling, bubbling sounds connected with it, the area of tympany observed when the patient was in one position and disappearing in another, and, lastly, the absence of succussion sounds.

MR. THORNLEY STOKER said Mr. Stokes' most interesting paper was bristling with paradoxes, a great number of which seemed to him incapable of explanation, although he had himself very carefully watched the case. On the evening of the man's admission into hospital the bubbling or gurgling sound was a most remarkable phenomenon, the like of which he had not seen approached in any case before, and he could find no better simile than that it resembled the breaking of gigantic bubbles audible at a distance of upwards of ten feet. The knowledge given by the autopsy bore out his opinion of the cause of the sound—he had attributed it to the rough admixture of air and fluid in the immediate vicinity of the heart, whose impulse imparted the motions, for the pleural sac contained both blood and air. The sounds were synchronous with the action of the heart. He was inclined to believe that the pericardium was wounded, but in that he was wrong; the air was about

the pericardium, and the sound was due to the churning together of the blood and air produced by the excited action of the heart.

DR. COX detailed two cases of pistol wounds of the thorax. One occurred on the night of the 12th of July some years ago in the County Sligo. A young fellow was out at night sitting with one or two others on a stile, when a shot was fired by one of a party of men who were proceeding home, and the bullet entered about an inch below the left nipple. In this case the probe passed in straight, but the foreign body could not be detected. There was no hæmoptysis, dyspnœa, pain or apparent imminent danger. Below the scapula on the same side he detected a slight amount of dulness, and he formed the opinion that the bullet had glanced off the rib and had lodged in that position. Shortly afterwards symptoms of pneumonia supervened, from which, however, the patient recovered, and an abscess formed in the situation where the dulness had been originally detected. On the abscess being opened the bullet came out. In a second case a bullet passed into the thorax, fracturing the clavicle. In this case the bullet was not extracted, but the patient made an excellent recovery.

DR. BEATTY suggested that portion of the lung remained, floated forwards, and, being relaxed, produced the tympanitic sound. In ordinary cases tympanitic sound was heard. He asked what was the condition of the lung, or was this sign present?

MR. STOKES said the injured lung was perfectly collapsed.

DR. HENRY KENNEDY said when pleural effusion existed the sound was tympanitic—not from the state of the lung, but because of air in the pleura. When the position of the patient was altered, so was the air. In reference to the comparatively sudden death when pleural effusion existed—which was much more common formerly than now—the patient's life was frequently lost by the comparatively sound lung getting affected. The duty thrown upon it was so great, it resented the increase by a sort of passive congestion which rapidly took place, and was a most unfavourable sign. Where paracentesis was now so rapidly done, such an accident could be averted. As to the sounds over the heart, it was remarkable what sounds were obtained when the pleura alone was engaged—the slightest friction modifying or developing them to a very great extent. The late Dr. Stokes had dwelt on the fact of eliciting sounds of this sort by pressure, the stethoscope being applied, and the hand of a second party used to press lightly on either side. In the case under discussion the heart's action gave rise to the friction sounds that led Mr. Stokes to think the pericardium was engaged.

DR. BENNETT said he had had the good fortune to see the case during its apparently favourable course, when it was supposed it would end in recovery, and when the physical sign Drs. Kennedy and Beatty had discussed was present. The tympany, on altering the position of the

patient, gave him a very clear idea that there was a small quantity of air in the pleura, which rose to the top, ascending as the position was changed. Another point of great interest was that it was clearly ratified by the *post-mortem* examination that there was an extensive wound of the lung, and yet there was no hæmoptysis. It was recorded by Fraser, in his "Surgery of the Crimean War," that the presence of hæmoptysis was of great value as an absolute diagnostic sign, but that the opposite was not to be inferred. A very extensive wound of the lung might exist without any hæmoptysis.

The PRESIDENT mentioned that Surgeon-General Longmore and Surgeon-General Mouatt had drawn attention to the dangers that arose when missiles carried before them any portion of the ribs or spicula of bone. There were cases in which bullets had been lodged in the substance of the heart, and there were no symptoms at all, and bullets had been found in the pericardium.

DR. LENTAIGNE thought they ought not to be deterred from paracentesis by fear of death during the operation. In a great many cases the result might be satisfactory. At the Medical Section he had exhibited a patient whose mammary artery had been wounded, and on whom he performed paracentesis three times. On the first occasion he removed five pints of almost pure blood from the pleural cavity, and just before the operation the patient seemed to be moribund. The same thing happened on two subsequent occasions. The man recovered, yet the cavity re-filled. He performed the radical operation, incising with a knife, and putting in a drainage-tube. The case turned into one of empyema.

MR. STOKES, in reply, said he was not quite satisfied with the explanation given by Drs. Kennedy, Bennett, and Beatty of the phenomenon. There were no sounds which would indicate the presence of free air in the pleura, and the position of the patient was changed owing to restlessness. Assuming free air was there, it was remarkable, if Dr. Bennett's view was correct, that the air should always mount up in a certain position to exactly the same spot—a small area two inches in diameter, situate at the base of the heart—and that it should appear in no other part of the chest. The explanation of Dr. Kennedy and Dr. Beatty would be adequate if there was evidence of free air in the pleura, but there was not. He was himself aware of the fact of several cases of gunshot wounds being recorded where the lung was injured, and there was an absence of hæmoptysis; but he could not explain the phenomenon witnessed in the case he had now recorded. He did not perform the second operation of paracentesis, the lung being completely collapsed, and the patient would not be sensibly relieved by the withdrawal of the fluid. The opposite lung was completely choked by catarrhal secretion, and therefore he did not think there would be anything gained by subjecting the patient to another paracentesis.



## PATHOLOGICAL SECTION.

President—A. H. CORLEY, M.D.

Sectional Secretary—E. H. BENNETT, M.D.

*Friday, January 4, 1884.*

The PRESIDENT in the Chair.

*Arthritis Deformans from the Horse.*

MR. ABRAHAM read a communication on a specimen of arthritic disease involving the manus of a horse. He said—Chronic rheumatic arthritis appears to be by no means uncommon in the horse. The specimen in question (which was exhibited) seemed to me, however, to be such an extreme example of the affection, that I thought it would be a sufficiently interesting object to bring under the notice of the Pathological Section. The bones are those of the right manus of an underbred and aged mare. The carpo-metacarpal articulation is quite healthy, but there are two or three small rough osseous outgrowths near the upper ends of the metacarpals—that is to say, there is a tendency to osteophytic outgrowths from the bones themselves, quite independently of the articular surfaces. The lower end of the cannon bone (middle metacarpal) is, on the other hand, all around the seat of the osteophytic deposit. Several of the dendritic masses are loose, and the larger ones measure upwards of two inches in length and one inch in breadth and in thickness. The articular surface for the first phalanx, or greater pastern, is on the left side for more than half its extent, rough and quite denuded of cartilage. The greater part of the surface is, however, not much altered, although on the borders of the denuded part are situated three narrow bands of eburnation. From the way the articulation looks in the specimen there could have been but little movement in the joint, and it is evident that the manus from this point must have been permanently fixed, without ankylosis, at an angle so as to point backwards and somewhat inwards. The greater pastern is nearly everywhere enveloped in an enormous more or less continuous irregular bony mass, which above greatly enlarges and deepens the socket of the metacarpo-phalangeal joint, in a manner typical of the so-called “addimentary bones.” A considerable portion of the upper articular surface on the inner side is denuded and rough, and there are one or two porcelainous lines and points, corresponding to those on the bone above. The irregular bony outgrowth has included, as it were, the posterior sesamoid bones, which have thereby become firmly ankylosed. The lower articular surface of his phalanx has for the most part disappeared, an irregularly cavernous space occupying its inner two-thirds. The small piece of

surface which remains on the outer half shows a large characteristically eburnated patch. Corresponding to the cavernous part of this surface, a similar irregular excavation is seen to occupy the adjacent portion of the "lesser pastern" (second phalanx); so that when the bones are in position these parts can be closely approached. It is probable that here the loss of substance or atrophy had been caused chiefly by pressure. At the same time the surfaces have some appearance of erosion by pus. That part of the articular surface of the lesser pastern which ought to be opposite to the eburnated patch on the greater pastern is for the most part eroded, and is only polished along a line on the outer rim. The articulation of the lesser pastern with the "coffin bone" (ungual phalanx) is healthy, although the latter bone had thrown out some irregular growths outside the articular surface. The term "arthritis deformans" is, in one sense, eminently applicable to this case, for before the specimen was macerated and the bones separated the general distortion was so great that it was hard to resist the idea of dislocation and fracture. From the awkward position of the bones the flat of the hoof became useless for support, and not meeting with attention the horny matter continued to grow. The hoof became thus curiously curved laterally, and it now weighs, when separate,  $4\frac{1}{4}$  lbs. This is a good example of the overgrowth of an epidermic structure when relieved of its legitimate wear and tear, and it reminds one of the big toe nails of bedridden paupers, which are so common in museums. For the sake of a more thorough examination the greater portion was longitudinally sectioned, and fragments from the centre of the base, as well as pieces of the osteophytes, were ground down for microscopic observation. On the cut surface the original contour of the bone can with difficulty be made out, and to the naked eye there is but little difference distinguishable between the textures of the osteophytic bone and of the bone proper. The saw has escaped a cavity situated in the midst of the bone, just below its centre. No communication with the outside has been traced. It is occupied in parts by a powdery mass, the remnant of an abscess. The thin sections taken from the centre of the bone are very similar in microscopic character to the sections taken from the outgrowth. In both cases the bone deposition is irregular, especially with regard to the lacunæ, which vary much in size and shape, have indistinct or few canaliculi, and are singularly absent in some places and closely massed in others. In the specimen, indeed, there seems to be, on the whole, more inflammatory bone disease than joint disease.

The CHAIRMAN asked was there any suppuration?

MR. ABRAHAM.—I did not find any. I did not examine the specimen until it was quite macerated.

DR. BENNETT said that although they seldom saw specimens of this sort, he believed the disease was common enough in horses. While

there were differences from the disease as presented in human subjects, the essential features were the same in both. There was also in the specimens an exact repetition of the diseased conditions seen in the fossil specimens of *cervus megaceros*, or Irish elk, which were preserved in the Museum of Trinity College and also in the College of Surgeons, the disease being in all these cases true rheumatic arthritis. In the last number of the "Pathological Transactions" of London reference was made to the occurrence of rheumatic arthritis in human skeletons lately dug in London from a Roman tomb of the fifth century, and in those found at Pompeii, as the earliest known examples of the disease; but a still earlier date might safely be assigned to the megaceros.

The CHAIRMAN.—Were both the horse's legs affected?

MR. ABRAHAM.—I think not. The animal while living could not walk on the diseased hoof, but dragged it under it.

MR. DOYLE mentioned that he had a horse suffering, he believed, from this disease, and the animal was a good galloper and a capital jumper in the field, but when leaving the stable in the morning he used to be quite stiff in the parts of the legs connected with the hock-joint. After he had moved about for a while, however, the stiffness would disappear, and he would get quite well. In the Richmond Hospital the late Surgeon Adams used to draw attention to the fact that patients suffering from rheumatic arthritis had a difficulty arising from stiffness which disappeared after they had moved about for a while. In the majority of the cases of arthritis at that hospital, as he remembered, the disease was not confined to one joint, but the joints of both sides used to be affected.

MR. ABRAHAM, in reply, said he forgot to mention, in the case he had brought before them, that the navicular bone was quite free. There was a cavity in the centre of the greater pastern, which contained a powdery mass, like what would remain after an abscess, although the occurrence of abscesses was not common in chronic rheumatism. There was also an appearance as if the joint had been eroded with pus. The bone seemed to be more affected than the articulations, so that one would be inclined to suppose that the disease was one more of the bone and the periosteum than of the cartilages. The ordinarily received opinion was that this disease commenced in the synovial membrane and the cartilages, and the human specimens in the Museum of the College showed that beyond a doubt. It was possible that there were other diseases nearly allied to the ordinary chronic rheumatism, but differing from it on some points, and it was also possible that the disease of the horse illustrated by the specimen was a variety of it. The bones of the megaceros in the Museum of the College of Surgeons showed a small amount of affection.

*Tumour of the Inferior Maxilla.*

MR. ABRAHAM made, on behalf of the President, who was unavoidably absent, a communication on the subject of sarcoma of the lower jaw. The patient first noticed the tumour in March last, and on the 15th of September she was admitted to the Richmond Hospital. In May she had been advised to have it removed. It commenced at the lower and outer part of the ramus, in front of the masseter, and involved the whole substance of the bone as far as the symphysis. The skin was reddened, but not thickened or adherent, and from the way the cicatrix puckered up during the healing he suspected that infiltration had commenced in the soft parts. The last report received of the case confirmed that view. He (Mr. Abraham) had examined the tumour, and the first portion of it that he inspected appeared to have the nature of a young fibroma, but on looking at two or three other sections it turned out to be a sarcoma. One of the specimens under the microscope showed the fibromatous texture, and from another it was apparent that the tumour was a rapid-growing one, with ossification going on. All that part was undoubtedly sarcomatous, and cells—round, spindle, and, in fact, of all sorts of forms—could be seen.

Dr. BENNETT said that an important point was that while the skin and surrounding parts and glands were free, the tumour yielded a crepitus to the touch, which made it probable that the tumour was of benign character, but that this symptom, often taken as evidence of benignity, was not to be absolutely relied on, for he believed the tumour was rapidly returning.

*Fracture of the Navicular Bone of the Foot.*

Dr. BENNETT submitted two examples of fracture of the navicular bone, which he believed had not been heretofore described. The first and older of the two specimens came into his possession some years ago from the dissecting room, so that of course he had no life-history of it, and it had since remained in the Museum of Trinity College. This year a second and more characteristic specimen of the injury came into his hands similarly, and without history. He at once observed its identity with the former example—in both the articular surface of the bone which receives the head of the astragalus presenting distinct evidence of united fracture, which traversed in a regular line the upper and outer part of the surface. Turning to the opposite articular surface, which supports the cuneiform bones, one is surprised to find only the most trivial traces of fracture marking the upper margin of the upper and outer part of the facette. In so thin a bone as the navicular, one would expect to find a close correspondence in the lines of fracture, no matter how arising, on its opposite faces; but it was evident that the planes

of fracture originating in the hollow depression on the proximal surface had passed with extreme obliquity to the free margin, almost avoiding the distal surface. He concluded that the force which caused the injury in both cases was a degree of crushing which, if more strongly applied, would have produced dislocation of the head of the astragalus upwards and outwards. With the specimen last obtained he had the other tarsal bones, and exhibited them as proof that the injury in this case was limited to the navicular bone, the others being normal, except only the head of the astragalus, which showed slight trace of change in form, such as its articulation with a bone whose surface was altered by fracture would readily induce.

*Dislocation of the Twelfth Dorsal Vertebra, with Fracture of the Ribs and their Cartilages.*

DR. BENNETT exhibited these specimens, and detailed the history and symptoms observed during the life of the patient. On Nov. 2, 1883, a middle-aged man was admitted to Sir Patrick Dun's Hospital, in a condition of profound collapse. He had, while half-drunk, fallen from the shaft of a float, between the horse and the body of the vehicle, so that he was dragged along for some distance between the low axle and the ground. His lower limbs and the trunk, from the ensiform cartilage downwards, were absolutely paralysed. All powers of motion, sensation, and all reflex motions, were absent. The bladder and rectum were powerless, but priapism was absent. In two days sensation was restored to the level of the hypogastrium and inside of the thighs, and there remained stationary. The urine was acid and free of blood, and was drawn off with a catheter until the eighth day. Pain and vomiting were the prominent symptoms after reaction was established. Two days after admission the patient broke out in *delirium tremens*. He had had the horrors before, and remained delirious till the 8th. On the 13th he again became delirious, and next day he passed, for the first time, bloody urine, the urine having become alkaline on the 9th. He had no bed-sores, being placed from the first on a water-bed. Only a minute eschar formed on one toe where the bedclothes lay heavily. He had a vesicle above the right ankle on the day after his accident, remote from any seat of pressure or of any part exposed to the heat of the foot-jar. This vesicle grew for a couple of days, and then remained stationary, ultimately drying up after the first week. The convex spines of the mid-dorsal vertebræ were covered, on his admission, by a large ill-defined bloody tumour, which precluded close examination in the early days, and the supervention of delirium rendered detailed examination during the first week impossible. From the advent of the hæmaturia on the 14th, when already catheterism was only performed occasionally, it remained constant to his death. But little benefit from treat-

ment was obtained in the control of this symptom, and, in fact, the patient appeared to die from its severity and uncontrolled continuance. He died on November 25th, of asthenia. The fractures of the lower left ribs and their cartilages gave rise to much pain at first, but otherwise did little to hasten death. When emaciation became marked, after the delirium subsided, the projection of the first lumbar vertebra was indistinctly defined. At the autopsy, on reflecting the muscles of the spinal grooves, the superior oblique process of the first lumbar vertebra presented its articular surface free and unbroken in the groove on the left side. With difficulty, on complete dissection, it was found that the corresponding process of the twelfth dorsal was cracked at its base, without any displacement or rupture of its fibrous investments. The opposite articular processes were normal. On section of the spine in the mesial plane, the body of the twelfth dorsal was found displaced forwards and downwards. The anterior common ligament being stripped for a short distance from the first lumbar, the angle so limited was filled by *débris* of the intervertebral disc of the vertebræ engaged and a few grains of bone torn off with its fibres; but nothing capable of being called a fracture of either body existed. The specimen then was one of unilateral dislocation of the twelfth dorsal vertebra, with only the merest trace of fracture of one (the inferior) of the articular processes engaged. The cord was found completely severed, the lumbar swelling almost completely involved in the crushing, with above and below compression of the cord by blood effusion for enough space to explain the abolition of all reflex movements. The chief interest seemed to be in the hæmaturia. No lesion of the bladder or kidneys existed in the way of rupture, but the kidneys were alike intensely congested and swollen, while their pelves were filled with blood, altered by its mixture with alkaline urine. Hence the cause of the bleeding was renal, and from both kidneys alike. The bladder was inflamed, but quite mildly compared with the kidneys. The specimens are preserved in the Museum of Trinity College.

The Section adjourned.

## SUB-SECTION OF ANATOMY AND PHYSIOLOGY.

President—PROFESSOR J. M. PURSER, M.D.

Sub-Sectional Secretary—JOHN FREEMAN KNOTT, F.R.C.S.I.

*Thursday, December 6, 1883.*

The PRESIDENT in the Chair.

*Demonstration in Microphotography.*

DR. NEWTON DICKENSON gave a demonstration in the art of microphotography with an apparatus which he believed to be the simplest and most efficient as yet produced. Photographs by his method could be taken either by day or night without any of the complex and expensive arrangements at present considered necessary for their production. The apparatus he described at full length, demonstrating its use by preparing some specimen photographs.

*The Homologies of the Musculus Sternalis and the so-called Pectoralis Quartus.*

DR. CUNNINGHAM made a communication on the homologies of the musculus sternalis and the so-called pectoralis quartus, which he illustrated with diagrams. He supported the view advanced last session by Mr. Abraham that the musculus sternalis is an aberrant part of the great pectoral muscle. He had succeeded in tracing its nerve supply from the internal anterior thoracic nerve. The pectoralis quartus he regarded as a piece of the panniculus carnosus. Its nerve supply, which he traced in the sloth bear, proved this.

MR. ABRAHAM was pleased that Professor Cunningham had so ably proved the idea which he had himself put forward last year. Although in certain text-books of anatomy, the muscle in question occupied a small paragraph after the description of the great pectoral, the authors made no allusion to any connexion between the two. In only one foetus out of three or four examined since his former communication did he find the muscle, and in that it was developed to a very small degree.

*Experiments on the Pneumogastric Nerve.*

MR. SCOTT read a preliminary communication concerning experiments on the central end of the pneumogastric nerve. He pointed out that in some experiments performed by Dr. Purser and himself on the central end of the vagi certain facts were observed differing from those hitherto described. Firstly, on section of one vagus the heart-beat was not slowed, but there was a slight fall of blood-pressure; secondly, on section

of both vagi a considerable rise of pressure ensued, associated with a slowing of the heart-beat, these being independent of the stoppage of respiration. The foregoing facts would show that the heart is inhibited by other means than the vagi. The respiration also was differently effected when one or both vagi were divided. In the former case the stoppage was always followed by expiration; in the latter by inspiration.

The PRESIDENT testified that the tracings exhibited were accurate copies of the original tracings. They were very curious in a great many respects, and the phenomena were extremely complicated, indicating not only the action on the nerves but the influence produced by the asphyxia.

MR. SCOTT, in replying, observed that it was only after the section of both vagi the beats made their appearance.

The Sub-section adjourned.

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#### DOWNWARD DISPLACEMENT OF THE TRANSVERSE COLON.

DR. C. H. THOMAS, Surgeon to the Philadelphia Hospital, records (*The Polyclinic*, Dec., 1883) three cases of a deformity of the transverse colon, consisting in the elongation of that portion of the large intestine and its displacement downward, in the form of a loop or festoon, observed by him in private practice. Autopsies were had in them all. In the first the most dependent portion of the gut was found midway between the umbilicus and the pubic symphysis; in the second it was deeply impacted in the cavity of the pelvis; and in the third it reached the level of the umbilicus. A positive diagnosis was not made in any of the cases, although in two of them the striking clinical conditions present were studied with special care, in association with experienced and highly skilled observers. The lesion described seems to be a rare one. Dr. Thomas proposed the following conclusions:—(1) Displacement of the transverse colon downward within the abdomen may be, to any degree, partial or complete. (2) Such displacement will present as a solid tumour if the bowel be in a state of fæcal impaction, or as a limited area of heightened resonance if the bowel be distended with gas; but in either case the displaced part is to be found *in contact with the anterior abdominal wall*. (3.) The occurrence of an intra-abdominal tumour situated below the normal site of the transverse colon, and having the same general configuration as the colon, such tumour being of a certain consistency, and presenting evidences of being in contact with the anterior abdominal wall; or the occurrence of areas of special tympany with like outlines and similarly located, constitutes a diagnostic sign strongly indicative of downward displacement of the transverse colon.



## TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

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SESSION 1883-84.

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President—PROFESSOR DILL, M.D.

Hon. Secretary—WILLIAM G. MACKENZIE, M.D.

*Tuesday, November 27, 1883.*

*The Inaugural Address.* By ROBERT FOSTER DILL, M.D., M.R.C.S., Professor of Obstetrics and Gynæcology, Queen's College, Belfast; Consulting Physician, Belfast Royal Hospital; Consulting Physician, Ulster Hospital for Diseases of Women and Children; Fellow of the Academy of Medicine in Ireland; Ex-Vice-President, Dublin Obstetrical Society; President of the Ulster Medical Society.

GENTLEMEN,

I have to thank you, which I do sincerely, for this renewed expression of your confidence, in electing me so soon again to the Chair as President of "The Ulster Medical Society."

It is rather a peculiar coincidence that, on the former occasion when you were so good as to confer upon me a similar honour, it happened to be on the fiftieth year from the time I had entered upon my medical studies; now it is the fiftieth year since the time at which I became legally qualified to occupy any professional position; but I did not then, nor for some time afterwards, sever my connexion with the University. The fiftieth year has been by certain persons and under certain circumstances called their jubilee year, because, I presume, it was the name given to certain joyous celebrations associated with a release which they had experienced. Be this as it may, or whether there is any analogy between the circumstances in which I stand and those in which those persons stood, I need not here stop to inquire; but, this I know, I have not yet sold my inheritance, neither have I felt my position to be a bondage, and I am not, I assure you, at all anxious to be released from it. Nevertheless, I hope you will allow me the privilege of calling this my jubilee year, because of the many friends I have and whom I see around me, and because of the health and the heart I possess to appreciate their earlier and their later favours, and because I can now look back upon half a century of professional life, with its many varied and its chequered incidents, occurring over that lengthened period and

appearing in all the tints of lights and shadows, and yet with all the fresh and fondly-cherished memories of the past.

My first recollection of University life is of what was called "The Blackstone Examinations" in Glasgow, that being the name given to matriculation in that ancient University because of the *Blackstone Chair*, upon which the student is seated when undergoing his entrance examinations; and I had occupied it immediately before Archibald Tait, the future Archbishop of Canterbury. At these examinations Archibald Tait scored such high marks that he afterwards obtained the Foundation Scholarship, which eventually carried him up to the Oxford University, and I have always watched with the greatest interest his steady progress and his brilliant career from these Blackstone Examinations, before Sir D. K. Sandford, the accomplished Professor of Greek, until elevated to the Archbishopric of Canterbury, the highest episcopal chair in the empire; and I fancy I can still hear his clear, distinct, and measured readings of those old pentameters and hexameters; and his readings of passages from Sophocles and Euripides were all but equal to an Athenian dramatist.

My second recollection is again incidentally associated with another great name, but of a different order and under different circumstances. The day after I had passed my examination in the Royal College of Surgeons, London, being disengaged for a short time, Dr. Southwood Smith, the popular physiologist of that day, asked me to give him some assistance in dissecting and in making a dried preparation of the body of no less a person than that most celebrated and able political economist—viz., Jeremy Bentham, and yet with all his acknowledged greatness, I could not, I assure you, discover the slightest difference in the dissections of his body from those which were taken from the paupers' burying-ground, Bully's Acre, Dublin. But I did discover a marked difference between it and that which he considered as his *Great Grand-father the Oyster*.

My third recollection, though not associated with any of the great ones of earth or water, is not on that account of less moment to myself. It was the day after I had been appointed a Dispensary Officer to a district, situated in as beautiful and picturesque a little neighbourhood as could be found in all Ireland again; and the women were as lovely as the scenery was charming—a land flowing with the milk of human kindness and the true sweets of social enjoyment. I remember well that bright May morning riding down that village street, on my way to visit a dispensary patient far into the country, and receiving the congratulations and the salutations, and the smiles from every person, in every door and from every window as I passed along; and I could scarcely suppress the feeling that my fame and my fortune were within "measurable distance."

After reaching the patient's house, examining and prescribing for one whom I found far advanced in consumption, and to whom I could hold out but little hope of relief, and less of recovery, I left saddened at the thought of being able to do so little for that young and anxious seeker after life, but had not gone far when I was stopped and asked (as was the custom to waylay a medical man on his professional rounds) to pay a visit at a very comfortable-looking neighbouring farmhouse. At the door I met and was asked by the farmer's wife, who stated that she wished me to take a little blood from her daughter's arm, as was her habit at that season of the year, and, as was then our habit, without asking *any impertinent professional questions*. And although a fine strong and healthy-looking country girl, I pulled out my lancet, most pedantically, tied up her arm and bled her freely and to syncope; she was soon placed in the recumbent position, and the arm immediately adjusted by means of a pad and bandage. When at the door and leaving, the good wife put into my hand a nicely-rolled up little bit of paper, which I graciously accepted; and as I *dare* not open it in her presence, I mounted and got as quickly as possible round to the other side of the hill. When well out of sight and with patience all but exhausted, with anxiety to realise my first professional fee, I pulled up, unfolded the little bit of paper, and exposed to view my *first honorarium*, which amounted to—what do you suppose?—just one silver sixpence!

I sighed—but again I thought it might be quite enough for what good was done. However, I rode home an humbler and not a much richer man, and I have often thought since that, let *the fame* go as it may, from that day till the present the fortune has appeared as a dissolving view; and that, had the blood been less and money more, the balance of power might have been better preserved.

You will not be surprised when I say that I have had some difficulty in determining upon the choice of a subject suited to a scientific and a critical audience; and I have felt that the more because of the numberless addresses to which we have been treated of late. But I feel much relieved because of the valedictory address with which we have been favoured by our out-going President. But however able most of these addresses are proved to be, yet there are to be found in some of them scientific fallacy, in others philosophical fiction, and in not a few you may travel over a great breadth before you come upon a useful fact, or a single grain of truth. Nevertheless, what I have to offer to-night must appear beside them as of little importance, and be looked upon as very small fry; so that I feel I am in the somewhat awkward position of the punctiliously polite Greek gentleman who, while performing the funeral functions of an infant daughter, felt called upon to make his excuses to the spectators for bringing out such a ridiculously small corpse to so large a crowd. But though small and insignificant what I have to offer,

I hope you will find it to possess a little more vitality than the Greek gentleman's child; though for size and appearance (our late President and *recognised oculist* will set me right if I am wrong) much depends upon the medium through which it may be viewed—through one medium it may be very like a whale, through another it appears as a little fish; but NO MATTER if viewed through the *spectacles* of a *Bishop Berkeley*.

I hope it may not be considered here out of place if I occupy a few minutes upon some points of interest associated with Medical Education as we now find it, and compare these matters with what we know of the state of education in former times, and, observing the results, draw our conclusions.

Professor Huxley, lecturing the other day, made use of this statement—viz., “that when one of his sons was commencing his medical career he was perfectly astonished when he compared the course of instruction, the requirements, and the kind of examinations which were needed from him, with the very small and perfunctory necessities of his own time.” If the course of instruction, requirements, and the examinations are in his own opinion the *sine quâ non* of an educated profession, then I submit that this statement of Professor Huxley is rather an unhappy one as coming from him, for with the small and perfunctory necessities of *his time*, what shall we say or think of his acquirements or of the rank he holds among the learned and scientific men at present.

And Professor Huxley is no exception, for although it has been stated that the difference between the past and the present is that the former was the age of literature, the present the age for science; yet I think I am in a position to prove that while there was more profound learning, I believe there were also not a few of the most important scientific discoveries made known, so that education altogether stood as high as we, with all the boasted progress of the present day, do yet enjoy; and the son, I feel persuaded, shall have trouble in rising to the level of the sire; that the men of other days possessed a learning and attainments which many of the present day would pale before.

Medical Education is, I believe, at present passing through a severe crisis—it is passing through very troubled waters. For, have there not of late been too many as well as extravagant changes made in some of our Universities, and too many attempts at medical legislation, and I confess that I, for one, was not sorry that the Medical Bill before the House in the last session did not pass into law. And I know that our students are very much hampered and harassed by these capricious changes as well as by the number and eccentric character of the examinations which they have now to undergo, because of which they are obliged to devote themselves to the advanced departments of science to the neglect of more useful, because more practical knowledge.

I would venture to offer an opinion upon another matter of some

interest to us in the present day. I believe it was one of the errors of the age to open our colleges, our schools of medicine, and our universities to women, thereby enabling them to compete with our young men while pursuing their medical studies, and in obtaining degrees and other medical distinctions.

Indeed I should have hoped that the culture and refinement of the age would have forbidden such a consummation, as that the two sexes should be found receiving united medical education. Which of us would like to see his sister, his daughter, or other young female friend, in the dissecting room, and at work in common with the youths of the opposite sex. Which of us would willingly join in consultation in *certain cases* with Dr. Elizabeth —, or be found investigating *certain diseases* with Dr. Mary —. I believe the properly constituted mind of either sex would revolt at the very thought of such a practice.

But apart from what some would consider the sentimentalism of the subject, woman, from her constitution and her habits, is altogether incapacitated from taking part in the toils, the labours, the responsibilities, the anxieties necessarily associated with medical professional life. When we consider her habits, her functional arrangements, her capricious tendencies, her domestic associations, her bodily weakness if you will, then say is she fit to take upon herself all that is necessary in the work of the profession, both by day and by night. And I believe she is disabled even more by reason of her mental constitution than from her bodily characteristics, which I shall endeavour to show you. It is unnecessary, though, for me here to attempt to prove that it is the brain matter which possesses the power of evolving mind, and which places the beings possessed of this power in the highest rank of creation; but it is necessary, before determining finally the question under consideration, to ascertain what are the essential points of difference between the mind-producing organ of man and that of woman. It is a well-recognised fact that the brain of man is larger than that of woman, the average of the one being forty-nine ounces and that of the other forty-three ounces—the difference in favour of the male brain being six ounces. It is also an accepted fact that the size and weight of an individual's brain are in direct relation to mental capacity; and it is a remarkable fact that whilst in men of high intellectual development, as in Cuvier, the brain has been found to weigh sixty-four ounces, woman's brain has never reached that weight by eleven ounces. We also find that the female brain is not only smaller than that of man, but it is different in structure and in shape, which I would say counts more as regards mental faculties even than does the element of size. Thus we find that the frontal lobes in man are larger than those of woman, and the depth of the convolutions and the density of the cortical or grey substance are greater. The inevitable conclusion we must arrive at is, that as man

possesses more brain than woman, he must of necessity possess more mind. But there is not only a difference in quantity, there is also a difference in quality, as in shape and structure, so there must also of necessity be a difference of function; and from this fact I am disposed to argue that the emotional is the first characteristic of a woman's nature, and which holds its ascendancy over her intellectual qualities; and *that*, no matter how highly she may be educated, inasmuch as the brain matter is not there either in quantity or in quality, she is incapable of a sustained, an original, an intense degree of thought. But while man's intellectual nature is his chief, his supreme characteristic, and by which he originates, he designs, he discovers, he explores—he, in fact, all but creates, yet who will venture to say that the brain from which will flow a wife's fidelity, a mother's affection, a sister's devotion, and a woman's gentleness, does not mark her out as one who shall rise higher in the scale of a moral and a spiritual life, than the brain from which flows the dry interpretations of the laws of nature.

If it were necessary to pursue this line of argument further, I might show that it is impossible for us, properly, to continue to entertain the novel idea of women occupying the field of medicine, because, if for no other reason, of the excessive strain upon her physical and her mental powers by which permanent injury to both mind and body is often found to follow, and this every physician of experience knows to be the case. I might also show that as woman's brain becomes developed at an earlier age than that of man, it is unfair to place them in competition at this time of life. I assert all this even in face of the statement which I see made at a public meeting and reported the other day—viz., “that women *were gradually coming* to the front.” In the presence of such advocates and with such advocacy I only wonder that they do not come careering to the front at a gallop. But I am persuaded that this movement must soon come to an end, and that when the novelty, excitement, and sensationalism shall have passed away, this phantom caricature will collapse, and woman will return to her normal sphere.

May I occupy your time a few minutes longer, while I shall endeavour to establish the proposition which I have made in favour of the learning, the attainments of the men of former time.

To say that the works of Hippocrates, and Celsus, and Galen, are accepted as amongst our ancient medical classics would be but expressing a truism, as they are to be found in the libraries of our Colleges and Universities. And I do not say more of the earlier Arabian authors, as Rases, Avicenna, Albucasis, than that their works still live and exert a power amongst us. If we consult some of the works of the 13th and the 14th centuries, we shall find that at these early periods, Leoniceus demonstrated that difficult problem which then existed—viz., that of making a correct diagnosis of syphilis, which had been up to that

period confounded with leprosy. The treatment of syphilis, however, remained for a short time an unsettled question, as Leoniceus rejected mercury because of so many persons dying from its effects. And amongst these Cardinal of Segorbe, Alonso, &c., whose deaths naturally prejudiced the public mind against this drug; soon, however, it was made manifest by Torello and Theodoric that mercurial unction was the true remedy (in fact, it was proved to be a specific for this terrible disease, as then experienced) by keeping up the "flux," as it was called, for three weeks.

And it is to *our minds* rather an amusing incident to find that such questions in that day were made the subjects of poetry, and that one Fracastorius, in Pope Leo's time, wrote what was considered an admirable poem, entitled "*Syphilis*," in which the chancre, the bubo, the ulcerated throat, the hoarse voice, the mercurial unction, fumigations of cinnabar, the flux, or rivers flowing from the mouth, are set forth and poetically recorded. Whether this poem is to be accepted as *sacred* or *profane* poetry you are the judges.

There are other instances, at an early period in the history of medicine, of correct diagnostic powers and successful treatment of disease. Sea-scurvy, which appeared in a most violent form at first, was soon understood and mastered by its true remedy—viz., fruits and vegetable diet. Mead, in his travels on the Continent, met with the writings of Bonomo, which contained an account of the cutaneous worms which generate the *itch*. When he returned to London Mead presented an analysis of Bonomo's researches to the Royal Society, and recommended sulphur as a specific for this very nasty and troublesome disease.

Thus we have in remote times not only a correct diagnosis formed of syphilis but also its specific treatment, in mercury. We find that sea-scurvy was successfully treated with lemon-juice, itch with sulphur, and intermittents by Peruvian bark.

Where, in modern times, do we find anyone who can lay claim to discoveries of more value or of more practical importance than are those I have instanced. But in coming a little further on, where is there to be found, at any period, more scholarly attainments or greater breadth of learning than are enjoyed by Linacre, Letsum, Caius, Sydenham, and Gooch, and a host of others, some of whom Dr. Johnson (no mean authority) pronounces well versed in the writings of antiquity, more particularly in those of the great Roman orator and philosopher, whose luxuriance of style they not only imitated but thoroughly mastered; and we know that the works of these men have not only made their impress upon the age in which they lived, but they have made their mark upon the world's history.

What, in modern physiology, can at all compare with that grand old discovery, the circulation of the blood; and does not the name of Harvey

call up recollections that justly place him in the foremost rank of natural philosophers, and whose services conferred upon anatomy and physiology what Newton rendered to optics and astronomy by his theories of light, and by his discovery of the laws of gravitation.

The name of Hunter cannot be omitted in the "roll call" when genius had become the rank and file of the age, and when by his great personal labours, and at enormous expense, he designed, completed, and established the Great Windmill-street Anatomical School, and handed down to us his vast treasures, known as the Hunterian Museum, and of which the authorities at the Glasgow University are the trustees and principal custodians. To Hunter also are we not indebted for his great work on the anatomy of the human gravid uterus, which is unrivalled for its splendour and the correctness of its delineations.

Among the names which ought to be held sacred by the undying gratitude of mankind is that of Edward Jenner, who should stand pre-eminent among discoverers, for it would be impossible to find his equal as a benefactor of the human family by his discovery and the introduction of vaccination, which has proved itself a safeguard—a specific against the ravages of a disease worse than the plague. And as we travel down the highway of medical science we reach another great landmark, clearly defined, and explicitly directing us on our journey. For has not Laennec put into our hands that most valuable and useful instrument, the stethoscope, which might be suitably termed the key of knowledge, by which we can unlock and lay bare some of the most hidden maladies, and by which are opened up to us mines of diagnostic wealth?

These are old truths which bear to be repeated, and the names of those men who brought them to light, and into use, have a claim upon our gratitude, our sincerest admiration, and our warmest acknowledgments.

I have a lively recollection of many successors to those great men, who taught and practised, and who flourished in the early part of the present century. I have only to mention Sir Charles Bell, whose name is so intimately associated with one of the grandest and most important discoveries in connexion with the nervous system. I might also make mention of the names of Abernethy, Brody, Lawrence, and Astley Cooper. But to come a little farther down, and nearer home, I would mention Colles, and Carmichael, and Cusack, and Corrigan, but especially Graves, who was one of the most accomplished and distinguished physicians and fascinating lecturers that ever appeared in the wards and lecture hall of Sir P. Dun's Hospital.

But words do fail me when I attempt to speak of that much-to-be-esteemed and long-to-be-remembered William Stokes, who in the Meath Hospital won not only the confidence and affection of his patients, but also the respect, admiration, and love of his students, by his winning



presence, his untiring zeal, but, above all, by his unrivalled powers as a clinical teacher; and from the city of Dublin, which had become the scene of his distinction, and in which he exerted a magnetic influence, he sent forth admiring pupils to all parts of the world, and he really enriched and benefited, by the halo which he flung around, the medical school during his brilliant career.

I have heard him relate, in glowing terms, how (in company with our old friend Creery Ferguson and a relation of my own) he mastered the use of the stethoscope under the eye and the teaching of Laennec himself; and William Stokes was the first physician who introduced and who taught the use of this instrument in these countries.

These are assuredly the fathers of medical science, whose names and whose deeds have been bequeathed to us as a rich inheritance, and upon whose ashes we shall never allow a foot to trample scornfully. For, although it was not theirs (nor has become the lot of any yet) to crown or complete the great temple of medical science, yet it was theirs, amidst darker times and amidst rougher and harder work, to dig deep, and "well and truly lay" the foundation and not a few chief corner-stones of this great structure.

Talk of titles, talk of decorations, talk of even peerages, for such men as these. You may confer upon them all the honours that a cold, contemptuous, and effete Government can bestow; you may cover them with stars and garters and ribbons—you may; but the stars shall become dim and the garters and the ribbons fade away, yet the names of these princes amongst men shall never be forgotten; their deeds shall form a bright page in the world's history, and their memories preserved, because embalmed in undying remembrances—for there is no death, no night there; or, as is so exquisitely expressed by our own Immortal Bard—

You may break, you may ruin  
The vase if you will,  
But the scent of the roses  
Will hang round it still !

#### CALCULOUS AND OTHER AFFECTIONS OF THE PANCREATIC DUCTS.

DR. GEORGE WOODRUFF JOHNSTON, of Washington, D. C., in an elaborate paper in the October, 1883, number of *The American Journal of the Medical Sciences*, presents the most complete clinical study of this subject in our literature. Altogether he has been able to collect only thirty-five cases in which, upon *post mortem* examinations, stony concretions were found in the pancreas. He cannot but believe that calculi are present in the pancreas far oftener than is supposed, and he can only attribute the paucity of medical literature upon the subject to the inexperience or carelessness of observers.

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P., F. R. Met. Soc.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday,  
December 29, 1888.*

Towns	Population in 1888	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES										DEATH-RATE per 1,000	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	Deaths from Pneumonia	From all causes	From seven Zymotics		
Dublin, -	349,685	630	864	153	206	-	3	46	3	10	20	5	90	32.2	3.3		
Belfast, -	214,022	487	357	61	75	-	-	25	-	11	5	5	48	21.7	2.8		
Cork, -	80,124	170	185	30	49	-	18	4	-	1	8	5	14	30.0	5.8		
Limerick, -	88,562	44	65	8	23	-	2	-	-	2	-	-	4	21.9	1.4		
Derry, -	29,162	60	54	5	12	-	-	10	1	-	2	-	5	24.1	5.3		
Waterford, -	22,457	35	52	5	17	-	-	-	-	8	2	1	6	30.1	6.4		
Galway, -	15,471	18	23	1	7	-	-	-	-	-	-	-	2	19.4	-		
Newry, -	14,808	34	17	4	2	-	-	-	-	-	-	2	1	14.9	1.8		

### Remarks.

Owing to the mildness of the present season, the winter rise in the death-rate was, happily, not as well-marked as usual. Nevertheless, the rate of mortality was very high in Dublin, Waterford, and Cork, and rather high in Derry. It was moderate in Limerick, Belfast, and Galway, and very low in Newry. The zymotic death-rate ranged from 6.4 per 1,000 per annum in Waterford, 5.8 in Derry and Cork, and 3.3 in Dublin, to *nil* in Galway. The registered deaths represented a rate per 1,000 of the population annually of 21.7 in twenty-eight large English towns (including London, in which the rate was 21.3), 26.5 in the sixteen chief towns of Ireland, 24.9 in Glasgow, and only 18.6 in Edinburgh. Omitting the deaths (15 in number) of persons admitted into public institutions from localities outside the district, the death-rate of the Dublin Registration District becomes 31.6 per 1,000 per annum. Applying the same correction the death-rate within the municipal boundary of Dublin remains as high as 35.6.

Acute febrile zymotics were credited with 96 deaths in the Dublin district—the average number of deaths in the corresponding period of

the previous ten years was 121·0. The 96 deaths included not fewer than 46 from scarlet fever—an increase of 9 over the number in the preceding four weeks, besides 20 from “fever,” 10 from whooping-cough, 5 from diarrhoeal diseases, and 3 each from measles and diphtheria. Of the 20 deaths ascribed to fever, only 4 were returned as being caused by typhus, whereas 15 were referred to enteric fever, and one to “fever” of undetermined type. Of the 46 victims of scarlet fever, 23, or 50 per cent., were children under 5 years of age, including 2 infants of less than one year. All the victims (10) of whooping-cough were under 5 years, and 3 of them were under twelve months old. Three deaths were ascribed to diphtheria.

A very severe epidemic of measles rages in Cork—18 deaths being registered against 9 in the previous four weeks. In Belfast and Derry scarlet fever continues very prevalent and fatal. In Waterford as many as 8 deaths were referred to whooping-cough. The deaths from diarrhoeal diseases fell to 18 in the eight selected towns, compared with 33, 62, and 92 in the three previous periods respectively.

In the Dublin District 630 births and 864 deaths were registered, against 668 births and 735 deaths in the preceding four weeks. 306 boys and 324 girls were born. The deaths of infants under one year rose from 137 to 153; those of persons aged 60 years and upwards rose from 178 to 206.

The deaths attributed to pulmonary consumption in the eight towns numbered 170 against 173 in the four weeks ending December 1. This evidence of the mildness of the winter was corroborated by the relatively low mortality from diseases of the respiratory organs in Dublin. The deaths were 185, compared with 165 in the previous four weeks, and with a ten years’ average of 234·9 in the corresponding period. The 185 deaths included 134 from bronchitis (average = 174·2) and 25 from pneumonia (average = 28·7). Of the 134 persons who succumbed to bronchitis, 41 were aged 60 years or upwards.

The mean temperature of the four weeks was 42·6° in Dublin, 42·6° in Belfast, 45·2° at Roche’s Point, Co. Cork, 40·7° at Greenwich, and 41·1° in Edinburgh.

#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20’ N., Long. 6° 15’ W., for the Month of December, 1883.*

Mean Height of Barometer,	-	-	-	30·182 inches.
Maximal Height of Barometer (at 9 a.m. of 7th),	-	-	-	30·683 „
Minimal Height of Barometer (at 7 p.m. of 11th),	-	-	-	29·349 „
Mean Dry-bulb Temperature,	-	-	-	42·5°.
Mean Wet-bulb Temperature,	-	-	-	40·5°.
Mean Dew-point Temperature,	-	-	-	38·1°.

Mean Elastic Force (Tension) of Aqueous Vapour, -	·230 inch.
Mean Humidity, - - - - -	85·1 per cent.
Highest Temperature in Shade (on 14th), - - - - -	55·0°.
Lowest Temperature in Shade (on 7th), - - - - -	30·2°.
Lowest Temperature on Grass (Radiation) (on 8th), - - - - -	25·3°.
Mean Amount of Cloud, - - - - -	68·3 per cent.
Rainfall (on 13 days), - - - - -	1·257 inches.
Greatest Daily Rainfall (on 10th), - - - - -	·532 inch.
General Direction of Wind, - - - - -	W.

*Remarks.*

An open, breezy, comparatively fine month. The mean temperature (42·5°) was 1·5° above the average of the previous eighteen years; whereas the rainfall (1·257 inches) and rainy days (13) were considerably below the average (2·614 inches and 17·0 days). Fresh to strong westerly winds were very prevalent during the first three weeks, but a calm foggy period commenced on the 23rd. There was very little frost. Snow was completely absent, but hail fell on the 14th and 15th. More or less fog was observed on the 23rd, 25th, and three following days. Lunar coronæ appeared on the 7th and 9th, and a lunar halo at 10 20 p.m. of the 14th. Glowing skies were again noticed before sunrise and after sunset on the relatively few occasions when the lower strata of the atmosphere were tolerably free of clouds.

From the 4th to the 8th inclusive, low temperatures—at some stations sharp frosts—and in England as well as on the Continent falls of hail and snow were prevalent. This sudden and complete change from the mildness of the last days of November was brought about by the passage south-eastwards across Northern and Central Europe of a very deep depression, with its accompanying “secondaries.” In Ireland the weather during this period was chiefly quiet, dry, and bright. On the 7th keen frost occurred inland—the thermometer falling to 21° at Parsonstown; but next day milder weather and westerly winds set in, as the barometer became very low over the Atlantic to the northward, while it was high in France and the Peninsula. These conditions of pressure produced a very stormy period, further characterised by a high mean temperature, with, however, considerable and sudden fluctuations, and frequent rains or showers. On the 9th and 10th a local cold area was found in the east of France and the valley of the Rhone—the thermometer falling to 12° at Lyons. The 10th was wet and squally in Dublin. The 11th opened with a bright “fore-glow;” in the afternoon a very deep depression came in from the Atlantic, passing across Scotland in the course of the night at the rate of forty miles an hour, and occasioning severe gales on all coasts from points between S.W. and N.W. As the disturbance approached temperature rose remarkably—to 54° in Dublin. On the 13th

the gale was renewed—the thermometer rising in Dublin *at night* to 55°, the maximal reading of the month.

On the 14th and 15th showers of rain and hail and cold squalls prevailed, and the “fore-glow” and “after-glow” were very beautiful—in the daytime a purple coloration round the sun was also observed. From the 17th to the 22nd inclusive the weather was very open, with strong squally westerly winds and some showers at times. From the 23rd to the end of the month an anticyclone lay over France and the southern part of the United Kingdom, where a succession of wet fogs and dull, cold weather finally gave place to dry, searching easterly or south-easterly winds. In Dublin Christmas Eve and Christmas Day were very fine and mild, but on the 26th a dull, damp period commenced, lasting to the 29th. The last two days were much colder, and on the 30th a splendid “after-glow” occurred, lasting like a blood-red aurora for two hours past sunset.

RAINFALL IN 1883,  
*At 40, Fitzwilliam-square, West, Dublin.*

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which .01 or more fell
	Inches	Depth	Date	
January, - - -	2·679	·676	24th	20
February, - - -	3·752	1·007	1st	17
March, - - -	1·056	·455	20th	12
April, - - -	2·207	1·389	26th	10
May, - - -	2·023	1·387	8th	13
June, - - -	1·932	·280	17th	18
July, - - -	2·222	·570	23rd	22
August, - - -	3·307	1·037	6th	14
September, - - -	3·637	1·380	1st	14
October, - - -	2·205	·445	24th	16
November, - - -	3·074	·875	5th	19
December, - - -	1·257	·632	10th	13
Total, - - -	29·351	—	—	188

The rainfall was almost exactly one inch in excess of the average of the preceding eighteen years (28·359 inches); but the rainy days—or days upon which not less than .01 inch of rain (one hundredth of an inch) was measured—188 in number—fell short of the average, which was 195·4. The excess of the rainfall was caused by the occurrence of several heavy falls within 24 hours—thus, 1·007 inches fell on February 1, 1·389 inches on April 26, 1·387 inches on May 8, 1·037 inches on

August 6, and 1·380 inches on September 1—that is, 6·200 inches, or about 21 per cent. of the total precipitation in the year—were measured on five days.

J. W. MOORE, M.D., F.R.Met.Soc.

## PERISCOPE.

Edited by G. F. DUFFY, M.D., F.K.Q.C.P.

### ON THE RENAL CIRCULATION DURING FEVER.

DR. WALTER MENDELSON, of New York, in an elaborate experimental research undertaken at the Pathological Institute of the University of Leipzig, the results of which he publishes in the October, 1883, number of *The American Journal of the Medical Sciences*, endeavours to determine by experimental methods the actual condition of the circulation in the kidney during fever. He finds:—1. That in dogs with fever the kidney undergoes a diminution in its bulk. 2. That this diminution is due to a contraction of the walls of the blood-vessels; and, 3. That it is constant and progressive, being proportionate to the intensity of the fever. 4. That it is in all probability the result of a nervous stimulus, originating in the central (cerebral) nervous system from the irritation of abnormally hot blood circulating there. From the intimate relations existing between the arterial pressure and the secretion of the urine, it will at once be evident that many of the changes occurring in the latter during fever may be readily explained by considering the above-named facts. Thus the *decrease in the amount of urine* secreted by fever patients, which has heretofore been ascribed to the increased loss of water through the lungs and skin (and which may amount to one-half, or even a third, of that normally secreted), becomes all the more explicable when the marked contraction is considered, which he here shows that the renal vessels undergo during fever. For in this case it is immaterial whether we accept the theory of Ludwig and his pupils, that the amount of urine secreted is dependent on the height of the arterial pressure in the kidney, or that of Heidenhain, that it is due to the rapidity of the blood-current in the renal vessels. In either case the great contraction of the kidney's vessels would produce both a diminished blood-pressure and a retarded current within the organ, and hence a lessened secretion of urine. The occurrence of *albuminuria*, such a constant symptom in nearly all high fevers, becomes readily understood when we bear in mind the extreme *anæmia* which he finds affects the kidney during a hyperpyrexia. For nearly all authorities are now agreed that albuminuria is due to the glomerular epithelium, in consequence of being insufficiently nourished with arterial blood, losing its function of retaining within the vessels the

albuminous portions of the blood plasma. The extreme sensitiveness of the renal epithelium generally to anæmia, whether partial or complete, has been shown by many observers, and it is not surprising, therefore, that in consequence of the prolonged and marked anæmia in the kidneys of feverish individuals, the epithelium should be so profoundly affected as to seriously impair its function, and allow it to become permeable to albumen.

A CONTRIBUTION TO THE GENERAL KNOWLEDGE CONCERNING THE  
PRURIGO PAPULE.

ALTHOUGH much has been written about, and many descriptions have been made of, the histology of the prurigo papule, the opinions of authors have not always agreed; and it was with the idea of settling as far as possible the disputed points and differences that Dr. Robert B. Morison, of Baltimore, undertook the following investigations in Prof. Chiari's pathological institute at Prague, on the material kindly furnished by Prof. Pick, which was taken *intra vitam* at various stages of the disease under the latter's personal supervision. He publishes his results in the October number of *The American Journal of the Medical Sciences* for the current year. Dr. Morison draws rather different conclusions regarding the formation of the papules, when considering them in their earliest and latest stages. He considers that the papule is formed by an infiltration beginning around the upper layer of vessels of the corium, and that this infiltration extending upwards surrounds the papillary vessels, enlarges the papillæ, thus pushing up the epidermis, which becomes thickened at an early stage above them, and, at last penetrating it, forms within its layers a small vesicle containing serum, blood, and lymph-cells. The signs of infiltration surrounding the hair-sheaths and sweat-ducts are secondary, and they play no especial part in the process. Their presence in the papule is accidental, and it is certain that the primary changes in the skin are not in connexion with them. The colour of the papule at first does not differ from the rest of the surrounding skin, on account of the depth of the slight infiltration with which it begins. For the same reason it is at first only felt, and not seen, as the infiltration has not extended high enough to push up the epidermis perceptibly, but is sufficiently great to give a feeling of knot-like hardness underneath it. He considers the whole process due to an inflammation, and that all the signs of chronic dermatitis follow regularly, according to the length and duration of the disease, and the amount of scratching, which the itching, as a secondary symptom, causes. Clinically the formation of the papule coincides with this description, for there is always noticed in the beginning of the disease, after careful investigation of the skin, a slight roughness, and a sensation as of running the hand or finger over small knots, covered with an intervening membrane. At this stage there is no

itching—in fact, the itching does not begin until the infiltration has so far advanced that the papules are more distinct. If before this occurs the treatment is begun, no itching appears. This proves, as Kaposi says, that all the symptoms of the disease go hand in hand with the increase or decrease of the papules.

#### NAPHTHOL IN THE TREATMENT OF SKIN DISEASES.

DR. ARTHUR VAN HARLINGEN, of Philadelphia, reports in *The American Journal of the Medical Sciences* for October, 1888, the results of his experience with the use of this drug, which was first brought to the notice of the profession by Professor Kaposi, of Vienna, about two years ago. He finds it is one of the most efficient and agreeable remedies for *scabies* which has as yet been brought forward. Both in the rapidity of its action and in its beneficial effects upon the inflamed skin it is superior to any of the means ordinarily employed for the cure of this disease. Its exact place in dermatic therapeutics remains to be ascertained, but he is inclined to think that it will not prove an unimportant one. The formula employed by Kaposi in the treatment of *scabies* is as follows:—R. *Axungiae*, ℥viii.; *saponis viridis*, ℥iss.; *naphtholis*, ℥iv.; *pulvis cretæ albæ*, ℥ii.—M. In hospital practice a single energetic application of this ointment is made over the affected parts, after which the patient is thoroughly powdered with starch, and wrapped in a linen sheet. In private practice, under-garments of linen are placed upon the patient after powdering the anointed skin, and he can then go about his ordinary avocations. Dr. Harlingen uses an ointment of four scruples of naphthol in one ounce of vaseline. In eczema it has failed in his hands to give the same beneficial results as were obtained by Kaposi. In most cases of vesicular and in acute eczema generally its action is simply that of an irritant. On the other hand, it has a limited field of action in the cure of a certain number of cases of squamous eczema of the scalp. In his opinion it is a valuable addition to our external means of treatment in *psoriasis*. Kaposi speaks well of it in *psoriasis* of the scalp in particular, and his experience would lead him to place it near chrysarobin and pyrogallallic acid in effectiveness, without the neutralising disadvantages of either these drugs. In *psoriasis* Kaposi uses an ointment of the strength of about one drachm to the ounce. The action of naphthol is, he thinks, less disagreeable than that of chrysarobin or pyrogallallic acid. He especially prefers it in *psoriasis* of the scalp or face, because it does not discolour the skin or hair, and does not give rise to irritation like those remedies. In *seborrhœa* of the scalp naphthol is a decided addition to our means of treatment. While inferior in some respects to sulphur or carbolic acid, it has a certain range of usefulness which further experience will in all probability more exactly demonstrate. Naphthol is highly lauded by Kaposi in the treatment of *hyperidrosis*, but in Dr. Van



Harlingen's hands it has failed entirely, although used strictly according to his formulæ. He considers it quite valueless in this disease, so far as his experience goes. His experience leads him to regard its effects in *ringworm* as inferior to almost all of the remedies at present used, and as almost entirely inefficient in most cases of *tinea versicolor*. In *pediculosis pubis* he has had no experience, but in a single case of *pediculosis capitis* its action was favourable. He employed a mixture of equal parts of naphthol and olive oil.

#### SOLIDIFIED CREASOTE IN DENTAL CARIES.

CREASOTE is a popular remedy much in use for toothache and caries of the teeth. Its fluidity sometimes causes serious oral accidents, but which can be remedied by solidifying it with collodion—two parts of collodion to three parts of creasote. A gelatinous mass is thus obtained, which is plastic and with which the cavity of the tooth can be obdurate, which prevents the access of air, and influences the dental nerve.—*Rev. de Therap. and St. Louis Journal*.

#### THERAPEUTICS OF SKIN DISEASES.

CONSIDERABLE attention has been given lately to the application of remedies to the skin in their adhering layers. Professor Pick was the first we believe to point out the use of a solution of gelatine as an excellent and convenient medium for the application of certain substances to the skin (*Monats. für prakt. Derm.*, Vol. II., No. 2, and *London Med. Record*, July 15, 1882, p. 292), in the *St. Louis Med. and Surg. Jour.* for Nov., 1883, in a translation from the *Wiener med. Woch.* of a paper by Professor H. Auspitz, advocating the use of *Traumaticin*—which corresponds to the *Liquor Gutta Perchæ*, B.P.—as a vehicle for chrysarobin in preference to gelatine. The gelatine layer peels off in a few hours, and must be re-applied. *Traumaticin* forms a much thinner and more delicate covering than collodion or gelatine, and for this reason causes neither tension nor pain. *Traumaticin* is of itself a neutral covering and protective remedy. Ten per cent. solutions, even when applied to large surfaces on children, or on adults, have never caused irritation. It also causes much more uniform pressure than gelatine, is much more easily manipulated, and does not decompose. After the greater part of the scales have been removed by a soap bath, a ten per cent. solution is applied with a stiff bristle paint brush, to all the existing patches. When the eruption is limited to a few and small patches, the solution is applied daily; when large surfaces are involved, every second or third day. A previous soap bath, when the reproduction of scales is very great, or simply a local wash with soap, when the scales are scanty, is advisable. Many patches, after one or two applications, already appear a great deal flatter and are covered mostly around the borders

only, with scales. After two, at most twelve applications, the infiltration and scales disappear, and in their place white spots bounded by a red or violet-brown line appear. In a few cases of limited extent, the psoriatic process was stopped in from three to six days, by daily application, without bathing or washing. In spite of the frequent application of the remedy to the face, and in psoriasis universalis, to almost the whole external surface of the body, no inflammatory conditions of the healthy tissues—in the form of conjunctivitis, diffused redness, painful swelling, acne, furuncles, eczema, or as fever, or disturbances of the whole general organism—were observed. Parasitic diseases, herpes tonsurans, eczema marginatum, and prurigo can be treated in the same manner. In prurigo, chrysarobin traumaticin was applied in ten per cent. solutions to adults and in five per cent. solutions to children. Usually the itching was immediately alleviated. In a few cases, after two to six applications the nodules had disappeared. That chrysarobin, however applied, does not prevent the recurrence of the disease, need not be mentioned; and the word *cured* above is only to be understood as meaning that the existing patches had disappeared. Traumaticin is as good an excipient for pyrogallic acid and for salicylic acid as for chrysarobin.

#### HEMIPLEGIC ARTHRITIS.

DR. H. C. WOOD, of Philadelphia, in a lecture upon "The Bone Lesions dependent upon Nervous Disease," reported in the *Medical News* of Dec. 8th, 1883, makes the following remarks upon the subject:—"It has been found," he says, "that there is a peculiar form of arthritis connected with hemiplegia, and especially when such hemiplegia is dependent upon diseases of the brain in which there are minute foci of softening. In these cases the diagnosis of this form of arthritis is a matter of importance, for I believe that in nine cases out of ten this condition is supposed to be due to rheumatism, and the patient is believed to be suffering from a second disease—acute or subacute rheumatism—super-vening on the attack of hemiplegia. In separating the two affections, it will be noted, in the first place, that hemiplegic arthritis comes on in twenty or thirty days after the attack, and just about the time at which late muscular contraction develops in certain cases. In the second place, the inflammation of the joints, at least in the early stage, is limited to the affected side; there are moderate pain and exquisite tenderness in the affected joints, which are much swollen, the swelling usually developing rapidly and being accompanied by distinct œdema with pitting on pressure. The history of such a case differs entirely from that of chronic rheumatism. In rheumatic arthritis there is no tendency to the development of pus, and little or no tendency to the breaking down of bony tissue, the effusion within the joint being serous

and remaining so for months. The cartilages may be removed, but the bone beneath the cartilage becomes hard, thickened, and of irregular stellate growth, and has little or no tendency to ulceration and destruction. Frequently osteophytes are found in the effusion. In the joint affected with hemiplegic arthritis, although the process is very slow and the arthritic changes may continue for months and even years, still there is a tendency for the formation of purulent liquids, and a tendency to the destruction, not only of the cartilages, but also of the bone.

#### TURPENTINE IN DIPHTHERIA.

ACCORDING to Dr. Satlow, spirits of turpentine, administered internally, gives superior results to the usually employed remedies for diphtheria. Its value was accidentally discovered by Bosse, of Domnau, a spoonful having been given by mistake to an infant suffering with diphtheria. Satlow first used it in teaspoonful doses, in March, 1881, in the case of an infant in immediate danger of death. The result was excellent. Two other trials, followed by equally favourable results, convinced him of the good effects of this substance, and of its harmlessness in large doses. He has now used turpentine in forty-three cases, and has had only one death, the result of paralysis of the heart in a case already convalescent. Of the forty-two cases of recovery, three had diphtheria of the larynx and nose, seven had albuminuria, and one had hæmaturia. There was paralysis in four, and strangury without albuminuria in some others. Satlow uses, when possible, the freshly distilled spirit in the following doses: For children, up to the age of nine years, he gives a coffeespoonful; for children above the age of nine, two coffeespoonful, and for adults a dessertspoonful during the day, always giving a quantity of milk or wine after the dose. The appearance of strangury is an indication for the interruption of the treatment, but not for its cessation. The tolerance of patients for the medicine is variable. After taking it they sometimes complain of burning pain in the throat, a sense of pressure in the stomach, and sometimes vomit. The addition of ether  $\mathfrak{M}\mathfrak{xv}$  to spirits of turpentine  $\mathfrak{f}\mathfrak{ss}$  will often prevent the vomiting. The greater part of the medicine is eliminated with the fæces and urine, the latter having the peculiar violet odour so well known. The action of the remedy is manifested by swelling and softening of the membranes, which become transparent and finally disappear with the inflammatory phenomena, the painful deglutition, and the ganglionic swelling. The complete effect is only manifested on the third or fourth day in grave cases. The efficacy of turpentine depends on its antimycotic properties, Koch having shown that a solution of one to seventy-five thousand will arrest the development of charbon spores.—*Centralbl. f. die gesamt. Thérap.*, September, 1883; and *Medical News*, January 12, 1884.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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MARCH 1, 1884.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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- ART. X.—*Foreign Bodies in the Knee-joint.* By SIR GEORGE PORTER, M.Ch., Univ. Dub., *Honoris Causá*; Fellow and ex-President, Royal College of Surgeons in Ireland; Surgeon-in-Ordinary to Her Majesty the Queen in Ireland; Senior Surgeon to the Meath Hospital; Consulting Surgeon, Dr. Steevens' Hospital.\*

THE subject of foreign bodies, or loose cartilages, situated in the knee-joint, is one of great interest to the practical surgeon—first, as regards their presence in an articulation which, with reference to size and utility in locomotion, is the most important in the body; and secondly, owing to the excruciating pain and oft-recurring attacks of inflammation their presence so frequently produces by getting locked between the articulating surfaces of the bones, rendering the life of the patient most miserable, and preventing his usual avocations, or his indulging in any form of active exercise. With respect to the formation of these loose cartilages several theories have been advanced, and although they have not been noticed by any of the very ancient writers, their presence is by no means uncommon in the different ranks of life. Ambrose Paré was the first who drew attention to the subject. He stated “that a hard, polished, white body, of the size of an almond, was discharged from the knee-joint of a patient in the year 1558,” in which he made an incision for the purpose of removing therefrom a collection of fluid. The next surgeon who wrote concerning these bodies was Pechlin,

\* Read before the Surgical Section of the Academy of Medicine in Ireland, Friday, February 8, 1884.



in the year 1691, who published the full details of another case in which a cartilaginous body was successfully extracted from the knee-joint. Later on we find Dr. A. Monro, in 1726, dissecting the knee-joint of a woman who had been executed, and in the course of his dissections discovering a cartilaginous body of the shape and size of a small bean. Ten years later, in 1736, Mr. Simpson cut out of the knee-joint a similar substance, which at the time of the operation he believed was only underneath the skin. From that period until now their presence and consequent effects seem to have been pretty well understood, and have been mentioned and described by nearly every surgical writer. The articulations in which these formations occur are—the wrist, elbow, shoulder, temporo-maxillary, knee, and ankle. They are met with, however, most frequently in the knee, and owing to the severe set of symptoms they produce during locomotion, render their consideration interesting. These movable bodies are of *two kinds*—first, those described as round or flat concretions, which are supposed to consist of fibrin; secondly, those which are irregular in shape, often nodulated, and formed of ossifying cartilage. They vary in *number, size, and colour*. One may be found in a joint, or many. Malgaigne found sixty in the elbow-joint, and Dr. Berry, of Kentucky, removed thirty-eight from the knee of a male negro. Their size varies from that of a millet-seed to that of a walnut. Their colour is sometimes white or whitish gray; others are of a faint yellow tint. As regards mobility, they may be completely isolated, and moving freely about the joint in every direction, or they may be attached by a slight band of fibrinous exudation or lymph to some point of the synovial membrane.

The loose cartilages belonging to the *first* or fibrinous variety are supposed to originate in different ways—viz., they may be formed out of the masses of fibrin which float about in the exudation and effusion that accompanies an attack of synovitis; or they may arise in the synovial fluid, which has been changed in its constitution by inflammation; or again, they may arise by the concentration of fibrin around a mass of coagulated blood which has found its way into the joint by the rupture of a small vessel, the result of an accident.

Those bodies of the *second* variety mentioned are organised, and can be referred to one of four distinct sources.

*Firstly*, in the apices of the synovial fringes cartilage cells are known occasionally to exist, which, under the stimulus of inflam-

matory action, undergo active proliferation and organisation, thus forming a cartilaginous nodule, which ossifies in the centre and by the movement of the joint becomes completely detached from the fringe of the synovial membrane it originally sprang from, and thus falls loose into the cavity of the joint and floats about in every direction.

*Secondly*, one or more of the edges of the synovial membrane may become pinched or squeezed between the articulating surfaces of the bones, giving rise to local and inflammatory infiltration, and thickening of small portions of the membrane. In due course these become crushed off or detached from their connexion with the rest of the synovial sac, and drop freely into the joint.

*Thirdly*, these bodies may arise *outside* the synovial sac in the periosteum or sub-synovial connective tissue as osteophytes, and in time, by excessive movement, may be forced into the cavity of the articulation.

*Fourthly*, they may arise, as Mr. Teale has suggested, as the result of fragmentary exfoliations, or separations, of small portions of the cartilages composing the joint itself.

The late Mr. Adams, of Dublin, considered their presence was due to an osteo-arthritic origin. The *symptoms* attending the presence of these bodies are so well known that it is hardly necessary to mention them. Suffice it to say—The patient, when walking or in some movement of the joint, is suddenly seized with a most violent pain, and is unable to move the joint in any direction. The pain at times is so great that he becomes sick and faint, and is compelled to grasp the nearest object to prevent himself from falling. When the position of the limb is changed the cartilage slips from between the articulating surfaces, the pain instantly subsides, and the function of the joint is immediately restored. These attacks of pain occur as often as the body gets between the bones, and according to the amount of exertion the patient has been subjected to. The frequency of the attacks would also depend whether the foreign body was entirely free, or its range of mobility limited in its extent by a small attached pedicle, or band of lymph.

It is most likely that during some movement slight inflammation may set in, causing the pouring out of lymph which makes the body become adherent to some part of the synovial membrane, in a situation that would not interfere with motion; or else it may fall into some little pocket or recess formed by the folds of the synovial membrane, in which it becomes temporarily fixed. This

accounts for the absence of pain, inconvenience, and disappearance of the body for intervals of weeks, and the return of the symptoms would prove that it has again been detached or dislodged.

*The treatment* for these loose cartilages, or foreign bodies of any kind finding their way into the knee-joint, may be divided into the *palliative* and the *radical*. The former consists in the wearing of a well-fitting laced knee-cap, or other mechanical appliance for the purpose of fixing permanently the body in a situation that will not interfere with the free motion of the joint. Some patients are quite satisfied with this form of treatment.

Cases, however, will occur, owing to constant attacks of pain and inflammation, when it becomes necessary to recommend the removal of the foreign body. In adopting the radical treatment the surgeon has the choice of two operations:—

1. The direct incision.
2. The indirect or subcutaneous incision, as practised by Syme and Goyrand.

As two remarkable cases of foreign bodies in the knee-joint have very recently come under my observation, I will briefly give the history, progress, and successful result of the direct method of operation, as performed under the spray and other antiseptic precautions:—

*Removal of a Loose Cartilage from the Knee-joint.*

CASE I.—J. H., aged twenty-six, a private in the 5th Dragoon Guards, stationed at York, was admitted into the Meath Hospital on January 7th, 1884, suffering from a loose cartilage in his left knee-joint.

*History.*—He stated that in July, 1883, whilst riding through the streets of York, his horse became restive and backed against a passing cab. His knee was squeezed. After this accident he was confined to the Military Hospital at York for a fortnight, and although he suffered much pain he did not observe the small body moving about in his knee-joint until September, 1883, when Dr. Riordan, of the Army Medical Department, detected it. For weeks he felt no inconvenience from its presence, being able to walk about and attend to his military duties. At other times he was seized with a most violent pain in his knee rendering him unable to stand, walk, or move the joint in any direction.

He was now invalided by a medical board from the service, and my friend, Dr. Riordan, gave him a letter to me asking that he should be admitted to the Meath Hospital, where he was taken in on January 7th, 1884.

*State on admission.*—His left knee-joint being carefully examined, a loose cartilage was discovered moving about in several directions. Sometimes it was difficult to ascertain its exact position. The man, however, by different movements of his joint, could always manage to find it.

*Operation.*—On January 17th, 1884, ether having been administered, I operated by the *direct method*, assisted by my colleagues, Messrs. Smyly, Ormsby, and Hepburn, under the carbolic spray. The cartilage was found to be extremely movable, and very difficult to fix in any one given position. It was secured after several attempts by means of a needle at the outer and lower border of the patella. The needle was passed through the integument, and made to penetrate the body. An incision about two inches long was carried directly over the cartilage. A quantity of synovial fluid escaped through this incision. The cartilage was then extracted, and the edges of the wound brought together by means of two silver wire sutures, and dressed with full antiseptic precautions. The joint was also fixed by means of a well-padded posterior splint, and the patient removed to his bed.

*After-treatment.*—He suffered very little pain or uneasiness the night of the day of the operation. His pulse and temperature were normal, and remained so throughout his entire convalescence.

*First dressing.*—The wound was dressed under the spray on the 25th, eight days after the operation, and it was found aseptic. No appearance of pus. Its edges lying in perfect apposition. The sutures were removed, and it was covered with carbolic gauze.

*Second dressing* on 29th January, 1884, when it was found to be completely healed. Dressings were then discontinued, and merely a bandage applied. Four days later he was able to walk about the ward. He has now obtained almost complete use of his joint, and is most anxious to re-enter the service.

*A Bullet removed from the Knee-joint after a lodgment of Thirteen Years.*

CASE II.—Whilst Mr. R. T., aged forty-five years, one of the most eminent gun-makers in this city, was holding a Derringer pistol, which he was about to discharge, it suddenly went off, and the ball struck him and entered about two inches above his left patella. This occurrence happened thirteen years ago. He bled very little at the time, and was seen in about half an hour after the accident by the late Mr. John Hamilton, who did not deem it prudent to explore the wound, but placed his limb in a fixed position, and applied a cold lotion.

The next day considerable inflammation was present in the knee-joint, and in two days afterwards a slight discharge of pus flowed from the wound, which was supposed, at the time, to have taken a downward course. He was confined to bed for upwards of three months, and had a slow

convalescence for three months longer before he was able to resume his usual avocations. From this time to about seven years after the accident he remained well; then, whilst stepping off a car, the bullet suddenly came to the surface below the patella, but before he could obtain any surgical assistance it had disappeared again.

In the early part of December, 1883, his knee-joint became swollen and uncomfortable, but not very painful; and on the evening of the 24th of December last I received a note from his brother stating that the ball had come to the surface, and requesting me to see him at once. I saw him in about twenty minutes, bringing with me the necessary instruments and antiseptic dressings. I found that the ball had made its way to the inside of the patella, and was almost under the skin. Having fixed it with the thumb and fore-finger of my left hand, I cut down and exposed its surface. I attempted to seize it with a forceps, but the instrument slipped twice. I then passed beneath a small steel scoop, and thus extracted it with ease. The joint being opened, a large quantity of synovial fluid escaped at the moment the ball was removed. I, however, closed the wound immediately with a strip of salicylic plaister and applied the usual antiseptic dressings.

I need not weary you with the daily notes of this case, but state that it was treated throughout antiseptically. In ten days the wound was healed, and the patient was allowed to sit up, and in three weeks from the operation he was walking about his room. These two cases I considered might be received with interest by the Academy, and I think are additional proofs (if such were required) of the great advantages of antiseptic surgery. In my student days a wound of the knee-joint, with escape of synovia, was often followed by amputation or death. Now, without fear, we cut into a knee-joint under the carbolic spray, thus stamping on "Listerism" the verdict of almost universal success.

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ART. XI.—*Address in State Medicine to the State Medicine Sub-Section of the Academy of Medicine in Ireland.* By THOMAS WRIGLEY GRIMSHAW, M.A., M.D.; Fellow of the King and Queen's College of Physicians; Registrar-General for Ireland; Chairman of the Sub-Section.

I HAVE to thank the Fellows for the high honour of being chosen Chairman of the Sub-Section of State Medicine of the Academy of Medicine in Ireland, the duties of which I shall endeavour to fulfil to the credit of this Academy and, I hope, to the advantage of State Medicine in Ireland.

There are many methods which may be pursued in choosing the subject of a Presidential Address, but as a rule a Chairman selects one of two, when it becomes his duty to deliver an annual address; he either chooses a subject which he has specially made his own or to which he has given special attention, or he adopts the plan of passing in review recent events connected with those subjects which it is the function of the Society over which he presides to study. On the present occasion I shall adopt the latter plan, and deal with the more important events connected with the public health which have occurred during the past year, and the principal points which have given rise to public discussion or attracted public attention since Dr. Cameron addressed the Sub-Section in February, 1883.

The subject will naturally divide itself into—

1. The state of the public health and any exceptional circumstances which may have arisen, such as epidemics at home or abroad.

2. Matters dealt with by our Legislature, which have either resulted in Acts of Parliament, been considered during the discussion of bills, or raised valuable discussions in Parliament on abstract questions.

3. Other sanitary questions of the day which have especially attracted public attention.

Many of the points indicated under the foregoing heads are in an embryonic condition or so badly developed as scarcely to be in a fit condition for discussion at present; others are already fully matured and disposed of, and again others are in the full tide of discussion, and deserve more consideration than I can devote to them on an occasion like the present, but which might serve as useful subjects for consideration either in this Sub-Section or at the approaching Sanitary Congress next autumn.

There have not been many notable events in the sanitary history of the past year as regards special interference with the public health or the prevalence of great epidemics. If we except the case of the outbreak of cholera in Egypt there was really no great or striking epidemic outbreak during the year 1883. This Egyptian outbreak presents no special features of hygienic interest, though it appears more than probable that important scientific results may be obtained by the opportunity afforded for scientifically investigating the nature of the cholera poison. As usual it appears to have been imported from the Indian home of the disease. It found in Egypt a congenial soil for its spread in the unsanitary condition

of that unfortunate land, where Surgeon-General Hunter says "conditions for the development and spread of disease in almost every form, epidemic or otherwise, abound."<sup>a</sup>

Towards the end of June rumours reached this country that cholera had appeared at Damietta and Mansurah. At first attempts were made to misrepresent the nature of the outbreak, and it was declared not to be true Asiatic cholera. It soon became evident that there could be no doubt as to what the real nature of the disease was, which opinion was afterwards confirmed by Surgeon-General Hunter in his report already referred to. The disease rapidly spread and soon became epidemic. At the beginning of August the disease had made its appearance at all the principal towns in Egypt, and in fact the epidemic became general. There can be little doubt that the account given by Dr. Flood to the correspondent of the *Lancet* at Alexandria is correct, and that the disease was introduced into Damietta by a fireman of a British steamer from Bombay who arrived at that place on the 18th of June.<sup>b</sup> Towards the end of the month of September the epidemic had abated, and in October may be said to have disappeared.

During the prevalence of the epidemic in Egypt great fears were naturally entertained as to the chances of the introduction of the disease into Europe, and various means were taken to prevent its spread, and also to make preparations for its reception should it make its appearance nearer home. Fortunately the disease did not invade Europe in 1883, but it would be premature to assume that it has altogether died out in Egypt, or that it may not make a fresh start in the return of summer heat and take a step in advance in 1884. Past experience teaches us to be on our guard against such an event, and for my part I see no grounds for the belief expressed by an eminent London physician quoted in the House of Lords, that the outbreak was a local affair and not likely to spread to Europe. I believe it was the precautions taken, combined with the late period of the year and consequently cooler season, which enabled our authorities in Egypt to confine the disease to that country, but I should be sorry indeed to hear that we are not still on our guard in the approaching summer.

<sup>a</sup> Despatch from Sir Edward Malet, enclosing report by Surgeon-General Hunter on the cholera epidemic in Egypt. Presented to both Houses of Parliament by command of Her Majesty. No. 29 (1883). C. [3,732.]

<sup>b</sup> *Lancet*, 4th Aug., 1883, page 214. Valuable reports and statistics of the progress of the epidemic will be found in the letters of the Correspondent of the *Lancet* during the months of August and September, 1883.

Now to look at epidemic diseases nearer home, which really are vastly more important to us than the possible invasion of an exotic disease such as cholera. While cholera has in a few instances made great havoc in Ireland, yet it is our "familiar zymotics" (as Dr. Robertson, late of the Registrar-General's Office in Scotland, used graphically to call them) which do us most harm and kill many more people in proportion.

In Ireland we have not recently had any very remarkable general outbreak of disease. A recent calculation shows that in the year 1883 smallpox had caused only 22 deaths in Ireland, the smallest number for many years. The deaths from measles fell from 1,518 to 715. Scarlatina caused no less than 1,719 deaths in 1883, as compared with 1,230 in the previous year. Typhus fever also showed an increased mortality. Whooping-cough was especially destructive to life, causing 1,869 deaths in 1883, against 832 in the previous year. Diphtheria, which in recent years has become a serious danger in Ireland, fortunately shows a decrease from 385 deaths in 1882 to 237 in 1883. Enteric fever slightly decreased, and diarrhoea remained almost stationary. If the figures for 1883 be compared with those for 1880, instead of 1882, they will be found very favourable indeed. We must therefore rather congratulate ourselves on an improved state of the public health so far as infective diseases are concerned. Regarding other forms of disease I am not yet in a position to speak of details, but I do not anticipate an unfavourable report as compared with former years. Still there is a vast amount to be done; indeed sanitation in Ireland is far behind what it ought to be in a civilised community, and there is abundant reason for promoting many of the useful sanitary measures which I am about to discuss.

#### LEGISLATION.

The session of 1883 has not been rich in sanitary legislation; although many measures connected with State Medicine were discussed, only some half dozen "public" Acts affecting the public health became law, and none of them were of first-class importance. There were, however, many Acts passed confirming provisional orders of the Local Government Boards, and other Acts of considerable value to the localities to which they specially apply.

Three statutes were passed in view of the possibility of an invasion of cholera, two of these being measures of a temporary character.



The first of these three which I shall notice is a permanent measure—namely, “The Epidemic and other Diseases Prevention Act, 1883.”<sup>a</sup> Those who have studied the Diseases Prevention sections<sup>b</sup> of the Public Health (Ireland) Act of 1878 will remember that section 150 provides that whenever a district is “threatened with or is affected by any formidable epidemic, endemic, or infectious disease,” the Local Government Board have power to make regulations with the view of preventing the spread of such disease, but that when such rules are made with reference to an urban sanitary district, the carrying out of the regulations will devolve upon the Board of Guardians—in other words, upon the sanitary authority of the rural district in which the urban district happens to be situated. At the time when the bill, which afterwards became the Act of 1878, was before Parliament, the dangerous nature of this provision was pointed out by many Irish sanitarians, and amendments were suggested with the view of leaving the administration at such critical periods in the hands of the urban authority. These amendments, however, were not accepted, and the absurd law was enacted that at a critical moment the sanitary administration might be transferred from one authority to another. Fortunately the dangerous experiment of changing sanitary horses in the middle of an epidemic stream, was never tried, and in the year 1883 Parliament found that a mistake had been made, and the law was amended so as to leave the administration of the 150th section of the Public Health (Ireland) Act in the hands of the urban authority. This new Act also confers valuable powers on sanitary authorities to borrow money for the purpose of carrying out the diseases prevention clauses of the English Act of 1875 and the corresponding Irish Act of 1878.

The other two Acts passed in view of the approach of cholera were—“The Diseases Prevention Metropolis Act, 1883,”<sup>c</sup> which expires on the 1st of September, 1884, and “The Cholera Hospitals (Ireland) Act, 1883,” which expires on the 1st of May, 1884. The former of these Acts seems a valuable provision for London, which might with benefit be amended and made permanent. By section 2 of this Act the Metropolitan Asylums Board is constituted a local authority for hospital purposes under the Diseases Prevention Act of 1855, subject to certain regulations to be framed by the

<sup>a</sup> 46 & 47 Vic., cap. 59.

<sup>b</sup> 41 & 42 Vic., cap. 52, secs. 149 to 156 inclusive.

<sup>c</sup> 46 & 47 Vic., cap. 35.

Local Government Board of England. It also provides (section 6) for the reception of sick persons at wharves on the Thames, specially provided for the purpose, and their conveyance to hospital—a provision which might with benefit be extended as a permanent measure to all great seaports. This Act also provides (section 7) that hospital accommodation provided under this Act shall not be deemed to be parochial relief under the Poor Law Acts. This is as it should be, and it is to be hoped that this temporary statute will prove the forerunner of some more useful and permanent measure for providing hospital accommodation for persons suffering from infectious disease.

The Cholera Hospitals (Ireland) Act<sup>a</sup> might, if vigorously administered by local authorities, have proved useful in case of an outbreak of cholera or any other dangerous epidemic, but it contains a condition which in all probability would have secured its failure—namely, that cholera must have appeared in the district before the Act could come into force. Section 1 of the Act provides that on receiving a certificate from a medical officer of a Union that a case of cholera has occurred in a sanitary district the sanitary authority may, with the consent of the Local Government Board, compulsorily take possession of a site or building for a cholera hospital. Provisions for giving notice to the occupier are contained in section 2, and it is also enacted that such hospital shall not be within two hundred yards of a dwelling-house or other inhabited building, &c. It appears to me that by the time the first case of cholera has been certified to, the sanitary authority summoned to consider the question of taking a site or a building, the consent of the Local Government Board obtained, and the necessary notices served on the owner of the house or site proposed to be taken, the epidemic will have thoroughly established itself. The other bills which became law during the session of 1883 were—"The Public Health Act, 1875 (Support of Sewers), Amendment Act, 1883,"<sup>b</sup> provides for the stability of sewers in mining and other districts. "The Trial of Lunatics Act, 1883,"<sup>c</sup> abolishes the scandal of finding lunatics guilty of criminal offences, or acquitting them "on the ground of insanity," although the crime has really been committed, and empowers juries to find verdicts of guilty with the addition that the criminal was insane at

<sup>a</sup> 46 & 47 Vic., cap. 48.

<sup>b</sup> 46 & 47 Vic., cap. 37.

<sup>c</sup> 46 & 47 Vic., cap. 38.

the time of the commission of the crime. "The Labourers (Ireland) Act," which is an Act to facilitate the provision of decent dwellings for Irish agricultural labourers, and to which I shall again refer when discussing the housing of the working classes, was also passed during the session.

An important addition has been made to the statutes for regulating the condition of the employment of labour by the passing of "The Factory and Workshop Act, 1883,"<sup>a</sup> by re-transferring the duties of inspection of bakehouses to local authorities, and making more stringent regulations for the management of bakehouses. This Act also provides for a further mitigation of the evils still connected with the manufacture of white lead.

#### ABORTIVE PARLIAMENTARY BILLS.

The list of abortive bills is always a large item in the proceedings of Parliament, even in the most successful of sessions. The abortive bills concerning the public health and state medicine during the past session were sufficiently numerous. In some cases it is indeed fortunate that the measures received but little support; in others the failure or postponement of legislation is much to be regretted. Three measures—two entitled "The Cruelty to Animals Act Amendment Bill," and the third, "The Vivisection Abolition Bill," would by some who have adopted the name of "Zoophilists"—I presume in contrast to philanthropists—be considered as cognate measures, fell among the innocents of the 46th and 47th Victoria. The former two measures most members of our profession would be inclined to support, they being for the abolition of the very unsportsmanlike and to my mind barbarous amusement of pigeon-shooting. The third measure will, however, be viewed in a very different aspect by the medical profession, being nothing less than a bill to put a stop to all physiological experiments on "vertebrate" animals. Why the wisacres who devised the bill draw the line at vertebrate animals it is difficult to see. This bill was meant to be a step in advance on the Cruelty to Animals Act, 1876,<sup>b</sup> which has done so much to limit scientific inquiry in this country. These measures appear to have been promoted by a class of persons who seem to prefer that numbers of human beings should suffer and die rather than that a few inferior animals should suffer pain for the sake of relieving human woes. None of these "Zoophilists" object

<sup>a</sup> 46 & 47 Vic., cap. 53.

<sup>b</sup> 39 & 40 Vic., cap. 77.

to the various painful means employed by agriculturists to supply their tables with joints from fatted bullocks, fat capons, or well-fed pork, or their carriages with emasculated horses, their bonnets with ostrich feathers, or their writing tables with goose quills. It is scarcely necessary before a medical audience to say more of this last measure than to congratulate the profession on a further failure of an agitation which is an insult to us and indeed a disgrace to civilisation.

A measure entitled "The Public Health Act Amendment Bill," to amend the English Public Health Act of 1875, contains some useful proposals, which, however, do not affect this division of the United Kingdom. The "Theatres Regulation Bill," for the better regulation of theatres and other places of public amusement, was a move in the right direction, as there can be no doubt of the risks run at present by persons attending assemblies in public buildings. The disasters at Sunderland and Vienna illustrate two phases of this danger on the great scale, but there are besides many minor but more constant evils arising from overcrowding and bad ventilation in public halls, theatres, and churches, which require to be dealt with by more stringent laws than any at present in force.

The Union Officers Superannuation (Ireland) Bill, brought in by the Government mainly at the suggestion of the Irish Medical Association, is a measure of much importance to the public, and especially to the medical profession. It is of importance to the public, because if it become law it will secure them against the possibility of having persons incapacitated by age or infirmity engaged in the Poor Law Medical Service; and it is important to the members of that important service, because it would put an end to the horrible necessity which now exists for aged and infirm medical officers to continue to discharge their duties long after they have become incapable of so doing. As the law stands at present, an aged or infirm dispensary or union medical officer has to continue to work at the risk of his own life, and sometimes at the risk of the lives of his patients, simply as the only chance of obtaining the necessary means of subsistence. Had the bill become law, this dangerous and disgraceful state of things would have come to an end, and the union officers of Ireland would have obtained superannuation allowances calculated on the scale now granted to the members of the Civil Service of the Crown. It is to be hoped this measure will speedily become law, and thus

remove a serious blot from the organisation of the Poor Law Medical Service of Ireland.

Another measure having special reference to Ireland was the Lunatic Asylums (Ireland) Bill. This bill may be shortly described as a bill to abolish private lunatic asylums in Ireland. There is not a single statement in the list of clauses of the bill to indicate the essential nature of the proposal which, however, is contained in the preamble in the words—"And whereas it is expedient altogether to abolish private lunatic asylums kept by individuals for profit (in Ireland), and at the same time to make more suitable provision in asylums specially provided for the purpose, of all insane persons who are able, either from their own resources or by their relatives or friends, to pay for support, maintenance, and medical care."

The rest of the bill is to carry out this preamble, and provides for the establishment, management, and supervision of asylums for pay patients established by Government.

Now, it does not appear to me that any such law as that proposed by this bill is necessary. It might be—though I much doubt the possibility—that by a conspiracy and by an inconceivable negligence of Government inspectors, certain persons not insane might be confined in private asylums; but may this not be equally true—supposing it were true—of any asylum? The day is past for confining sane persons as insane for the purpose of defrauding them of their property. Even if there were no Government control, the fact of the person so confined having property and having heirs would, generally speaking, be pretty good security against such a proceeding. Have the proposers of this measure ever considered what the result of its passing would be? To my mind the result would certainly be that lunatics of sufficient means to pay for their support would be retained at home, and probably be inefficiently taken care of, in order to avoid the publicity incident to their confinement in State asylums; and that persons of weak mind, with few or careless friends, would be quietly disposed of at the minimal expense in the pay asylums established under the proposed measure. This question is closely akin to one not of a professional nature—namely, who should take charge of settlements on minors and other persons? Are these to be left, as at present, to be dealt with by trustees who are selected by their friends, or should a great Government department be established to administer wills and trusts? I am afraid that however pleasant it might be for trustees of lunatics, minors, and others to be relieved of their trust, yet, on

the whole, it is better to leave matters as they are, and require some self-sacrifice on the part of relatives and friends to one another.

Another important measure relating to lunatics in Ireland, intituled "An Act to make better provision for the care of the Lunatic Poor, and for the Inspection of Lunatic Asylums in Ireland, and for other purposes relating thereto," was presented to the House of Lords by the Lord President of the Council on behalf of the Government. This bill contains most valuable provisions. It is well known that there are many insane poor persons in Ireland who are not confined in asylums or taken care of in workhouses. There were on the night of the Census 1881 returned as lunatics and idiots in Ireland 18,413 persons; of these 9,443 were in asylums, 3,479 in workhouses, and 5,491 at large. Now, it is evident that of these 5,491 many may be in a neglected condition. Parts I. and II. of the bill deal specially with these. The bill contains provision for reports from the police on the discovery of such persons, and provides for their examination by medical officers. It further provides for their removal to workhouses when deemed advisable; when it is considered that they can be efficiently taken charge of at home, the bill provides for their regular visitation by a medical officer. It would thus appear that over 5,000 lunatics and idiots, at present without any supervision, would be brought under the cognisance of the poor law authorities, in addition to over 3,500 at present in workhouses. As there are 9,000—or about one-half—of the lunatics and idiots in asylums, and the new provisions are to be chiefly worked by the poor law officers, the bill naturally provides for the transfer of the supervision of lunatics from the present Inspectors of Lunatics to the Local Government Board, which is the central poor law authority. There can be no doubt that this measure is well designed to carry out the very desirable objects which it is intended to fulfil; and if it becomes law, I feel certain it will relieve much misery, and bring comfort to many afflicted persons and their friends.

Two bills, referring to the Contagious Diseases Acts of 1866 and 1869, were before Parliament during the past session, but these were not proceeded with. I shall have something further to say upon this question.

A useful measure, entitled the "Canal Boats (1877) Amendment Bill," to amend the Canal Boats Act of 1877, failed to pass during the past session. I may here remind you that the Act referred to

is a measure for the regulation of the sanitary conditions of canal boats, and for securing the education of children living therein. The Act is much in need of amendment in many particulars, and it is evident that a floating house is a unit of sanitary work difficult to deal with. Two valuable measures, entitled the "Commons and Enclosure Acts Amendment Bill," and "Commons and Enclosure Act Amendment (No. 2) Bill," were brought forward. These bills were introduced with a view of increasing facilities for the formation of open spaces in the neighbourhood of large towns. Bills of this character should, I think, be pushed on with great vigour, and the measure should be of a most comprehensive character. Every measure of this nature which fails to become law is a sort of hint to squatters and (what shall I term them?) usurpers of commons lands to carry on their trade with activity; as the time for their operations is being steadily limited by philanthropists who are endeavouring to save every open space for the use of the people.

I have now touched upon all the questions, except two, which became the subjects of abortive bills during the past session. These I have left to the last, as being those which have created the greatest interest and caused the most discussion among the members of our profession.

The Infectious Diseases Notification Bill of Mr. Hastings made no progress during the session, but it is one of a number of measures which have been brought before Parliament during the past few sessions, for the purpose of securing the prompt notification of the presence of infectious diseases to the sanitary authority of the district in which they may arise, with the view of limiting or preventing their spread. Such a measure cannot possibly become law without immediately affecting the relation between the medical profession and the public. I shall not attempt to discuss the many measures upon this subject which have from time to time been brought before Parliament either as public or private bills. Many of the private bills have become law, and on the whole have worked well in the localities to which they apply. It seems now to be admitted by all sanitarians, whether within or without our profession, that prompt notification of infectious diseases is a necessity if it is intended to limit the spread of epidemic or endemic disease. It is also clear that if notification of infectious diseases is to be of any real value, it must be compulsory. The question which has created most discussion, and rightly so, is whether the *onus* of

notifying is to rest on the "occupier" of the house in which the infectious disease has appeared, or on the medical practitioner in attendance on the affected person. The bill of Mr. Hastings (which, however, did not extend to Ireland, although other measures of a similar character have been proposed for Ireland) makes it incumbent on the occupier or person having charge of the sick person, and also on the medical attendant, to notify to the sanitary authority the occurrence of the infectious disease. Now, in my opinion, it is a perfectly reasonable thing that the sanitary authority should be made aware of the fact that an infective disease exists in its district, of the exact place it exists, and of its nature, and that, too, as soon as possible. The presence of an infective disease in a populous district is much more dangerous than the presence of gunpowder or other explosive. As a rule, an outbreak of cholera, typhus, enteric fever, or scarlatina, kills and maims more people than an explosion of gunpowder or dynamite, and the disease has the disadvantage, as compared with the explosive, that its action is continuous in the former, but temporary in the latter case. Yet the law provides most stringent regulations concerning the safe keeping of explosives, and requires a full knowledge of their whereabouts, but makes little provision for the safe keeping of persons suffering from infectious diseases, and practically none at all as to a knowledge of their whereabouts. Now, the main part of the controversy concerning these measures has turned upon the question as to whether the medical attendant should be compelled to notify. Two arguments have been used upon this point—the first, that it would be a breach of confidence with his patient; the second, that if required to notify he should be properly paid, and that as there is little prospect of his being properly paid he should not be required to notify at all. The first point I look upon as a very worthless piece of sentiment. The secret shared by a physician with his patient as to the nature of his patient's illness is not the secret of the physician—it is the patient's secret; and if the majority of the representatives of the patients, otherwise the public, choose to make a law that the medical attendant may or shall notify, there ends the matter. The other question is a much more important one, to my mind. No doubt every citizen owes certain duties to the State and to the community in which he lives, and the medical practitioners owe these duties in common with all other citizens. The State, no doubt, grants certain privileges to the medical profession, such as exemption from juries, militia



service, &c., but, on the other hand, the State admits that it is bound to pay for any direct professional service rendered to it, and imposes the same obligation on local authorities. Now, I hold that it would be a great advantage to the country if they could secure the services of the profession for the notification of infectious disease; but from the fees proposed in the various bills, usually only a shilling, never more than half a crown, and often nothing at all, I do not believe that any efficient service will be obtained, and therefore I consider that unless the public are prepared to pay a liberal sum for his service, it is much better not to require any direct service from the medical attendant, but to place the whole *onus* of notification on the "occupier" or "person in charge of the sick," at the same time requiring the medical attendant to state the nature of the disease to one of the persons bound to notify.

It will be remembered by many that when those laws which I have the honour to administer for the registration of deaths were first introduced, great opposition was raised to the requirement that the medical attendant should notify the cause of death of his patient to the registrar of the district, and thus, in many cases, become the primary informant of the death having taken place. In spite of the opposition of the profession, this provision became law throughout the United Kingdom, but it did not remain law, as it proved to be inconvenient in its working, and a great grievance to the medical profession. The law now requires the medical attendant to notify the cause of death by certificate to one of the persons bound to register the death, and here the duty of the medical practitioner ends; he has no concern with anyone except his patient and his patient's friends. It appears to me that notification of infectious disease could be carried out on the same principle without offence to anyone. A bill introduced into Parliament by Mr. Meldon in 1882 endeavoured to combine compulsory notification by the occupier with voluntary notification for a fee of 2s. 6d. by the medical attendant. For my own part, I see no harm in this measure; it has the small modicum of good that it permits a public-spirited medical practitioner to assist the sanitary authority without violating the confidence of his patient, and allows a fee which, at the least, will cover the cost of the proceeding, and prevent his being out of pocket by his philanthropy. I believe it is the duty of the profession to support a measure for the compulsory notification of diseases, and even to make some sacrifices for the carrying out of such a useful object. At the same time,

I cannot think that any measure which lowers the dignity of the profession, or places its members in an invidious position, will in any way benefit the public.

Among the bills affecting the medical profession which proved abortive during the past session, by far the most important was the Medical Acts Amendment Bill, commonly called the Medical Bill of 1883, introduced into the House of Lords in March, 1883, by the Lord President of the Council. From the year 1840, when the first Medical Reform Bill was introduced into the House of Commons by Messrs. Warburton, Wakley, and Hawes, the subject of medical reform constantly agitated the profession until the passing of the Medical Act of 1858, which it was hoped would have proved a settlement of this question. This anticipation, however, was disappointed, and the Medical Act of 1858 did little to improve medical education and rid the profession of the reproach that it contained amongst its members many ignorant and illiterate persons. Many have been the attempts to amend the Medical Act of 1858. Bills have been introduced by several Governments and by many private members, and at the suggestion of several associations, especially the British Medical Association. In 1880 a Select Committee of the House of Commons was appointed, which was renewed in 1881, and the whole question was referred to a Royal Commission, which reported in 1882, with the result of producing the Medical Bill of 1883, which failed to pass the Commons last session, although it passed the House of Lords. Now, why has all this trouble come about in connexion with medical reform? I am now of the same opinion as I was when I addressed the Public Medicine Section of the British Medical Association in Cork in August, 1879, where I made the following remarks:—

“To whom, or to what, is the failure of the Act of 1858 due? Is it to the defective construction of the Act, or is it to its defective administration, and if to either, upon whom does the blame rest? My answer to this last question I give with great regret. The failure of the Act of 1858 must be attributed to the General Medical Council. If the Act gave insufficient power to the Council, and they found themselves unable to administer the Act, why did they not respond to the request of the Government in 1869, and suggest such amendments as the Government could recommend for the adoption of Parliament? This they did not do. It cannot be argued that the powers of the Council are insufficient, for they have never tried to exercise them against recalcitrant

medical authorities. It cannot be argued that the medical authorities have done their duty, or else legislation would be unnecessary. It was the duty of the Medical Council to coerce the authorities into efficiency; this the Council has never tried to do, and therefore the Council must bear the blame of the failure of the Act of 1858. To remedy this, it is essential that the Council must, in the first instance, be reconstructed, and in its reconstruction it is essential that the authorities to be controlled should not elect the three-fourths of the Council. The Medical Council should control education directly, and be really a Council of education, having the control of medical schools and clinical hospitals, as well as of examinations. No one desires to deprive the medical authorities of their independence, or their power of local government. Such a proposal would be contrary to the principles of the Constitution—one of the great principles of which is the granting of powers of local self-government, such as are not permitted under any other political constitution in the world.

“The only means of providing an element sufficiently powerful to control the selfish influences of the Corporations, and to avoid placing the government of the profession solely in the hands of the Imperial Government, is the creation of a Medical Council, with a considerable number of members elected by the direct vote of the profession. The creation of a powerful and efficient Council, having the confidence of the public, the profession, and the Government, might solve the question of medical reform, without the enactment of any other details respecting education and examination. I believe that provisions for conjoint examinations, with uniformity of studies, will be utterly ineffectual, unless a competent controlling authority be established. It appears to me that the only other alternative is the abolition of the General Medical Council, and the establishment of a State Board to examine all the licentiates and graduates of the medical authorities, before registering them as legally qualified medical practitioners. There can be no doubt that the establishment of a strong and liberally constituted Medical Council is, however, the plan most in accordance with the principles of the British Constitution.”

The Medical Bill of last session was, as I have already mentioned, based on the recommendation of the Royal Commission, and I believe the bill failed because it went too far. As I have pointed out in the above quotation from my address at Cork, a soundly constituted Medical Council with ample powers—in other words,

a Council with a will and a way, is all that is required to solve the difficulty. The Royal Commission, I am afraid, spent too much of its report on suggesting what should be done instead of the way to do it. The failure of the bill of 1883 was due altogether to the attempt to indirectly represent the medical authorities on the Medical Council, and to balance the relative interests of the various authorities in the representation on the General Medical Council. This was done in consequence of the recommendation of the Royal Commission in favour of a reduction in the number of the Council, with the view of reducing the number of the representatives of the medical authorities, and making room for direct representation of the profession. There is no valid proof that any of the defects of the present Medical Council are caused by the excessive number of its members, and why the Commission suggested this additional complication in medical legislation I fail to discover in their report. It does not appear that there is any objection to the size of the Medical Council except the cost of working, and as the Council has been saving money it does not appear that expense can have, up to the present, any real influence in the matter. Another reason assigned (not by the Commission, however) is that the Council talks too much, but really I cannot see that the amount of talk is likely to be diminished by the diminution of the number of members, as it will be easily seen by anyone who reads the proceedings of the Council that the bulk of the talking is done by a few, as is the case in nearly all public assemblies. If the present Council were left as it is, and the direct representatives of the profession added, probably the question would now have been settled. All that is really required in the way of reform may, I think, be included under the following heads:—

1. No person should be admitted to the profession who has not qualified in medicine, surgery, and midwifery—in other words, no incompletely qualified person should be admitted to the profession.

2. The Medical Council should be a *bonâ fide* Medical Council of *Education* as well as examination and registration.

3. The Medical Council should have absolute power to enforce its mandate on the medical authorities, who should have an appeal against the decision of the Council to the Privy Council.

4. Medical qualifications should be given on like conditions of education, examination, and fees in all three divisions of the United Kingdom.

I am bound to say that I consider all these can be accomplished

without the elaborate machinery suggested by the Royal Commission. While I have all due respect for the very high authorities who have written and spoken on this question, I may myself lay claim to some little authority on the question; for I have been a medical student (we all have been), a grinder, a lecturer in a medical school on three different subjects, a clinical physician, an examiner under two medical authorities, a member of the Council of the Irish Medical Association, of the Medical Reform Committee of the British Medical Association, and of the Parliamentary Committee of the King and Queen's College of Physicians; and having now retired from the active practice of the profession, and from teaching and examining, may be considered an impartial authority. I have thus had an unusual opportunity of seeing all sides of this question, and I feel confident that the vast majority of the profession believe that all is included under the four heads I have indicated above. On the whole, the delay in medical reform has been so great that many of the corporations have reformed themselves to a large extent, and the advance of knowledge and the pressure of public and professional opinion have left but a few—and those few are great sinners—who still admit ignorant persons to their licences and degrees. Now, I have already said that the great cause of failure of the bill of 1883 was the attempt to carry out indirect representation of the medical authorities—a plan which no one except the Royal Commission ever thought of or insisted on. The advocates of direct representation of the profession at large never proposed such an unfair thing as the indirect representation of the medical authorities. It was this that produced the failure, and in this way:—There are four classes of medical bodies granting licences to practice—1. The great universities, which require arts degrees previous to admission to medical degrees. 2. The minor universities, which give degrees in medicine without degrees in arts. 3. The great medical corporations, granting licences to practise. 4. The minor medical corporations. Now, it was principally through the minor universities that the difficulty arose. These bodies, some of which, no doubt, are of high standing in arts and science, are, so far as medicine is concerned, mere licensing authorities, and have no real claim, from a medical point of view, to be *bonâ fide* grantors of degrees. The degrees are mere bastard degrees in medicine, and should not be considered of more weight than so many licences of Colleges of Physicians or Surgeons. To take Ireland, for example, we have the University of Dublin

granting *bonâ fide* degrees in medicine after the candidate has not merely "qualified in arts," as the phrase goes, but *graduated in arts*. We have the Royal University granting degrees in medicine after the candidate has "*qualified in arts*." I have had some experience in examining at the Queen's University (which is practically the same as the Royal), and also at the College of Physicians, and I am bound to say that the candidates I had to deal with at the University were not one whit better in either general or professional knowledge than at the College. Yet the Medical Bill, owing to amendments introduced at the instance of the two universities as it left the House of Lords, proposed to make the Royal University, with its bastard medical degrees, equal in position to the University of Dublin, and superior to the College of Physicians. The public are evidently not aware of the difference between *bonâ fide* degrees in medicine conferred by first-class universities on their graduates in arts and bastard degrees conferred by universities on anyone who turns up as a candidate, and "qualifies in arts" by passing a preliminary examination in general education. The public do not know that these degrees are no better than, and in many cases not so good as the licences of the Colleges of Physicians and Surgeons. Why the universities should be given the power to license to practise at all passes my comprehension. A university degree in divinity will not admit to any ecclesiastical dignity or preferment; a degree in law will not admit to the bar—why should a degree in medicine admit to the practice of the medical profession? If the power of admitting to practice were taken from the universities, we should find them only entitled to representation on the Medical Council as teaching bodies *when they are such*. The minor medical authorities, such as the two Apothecaries' Halls and the so-called Faculty of Physicians and Surgeons of Glasgow, are effete bodies, which should be abolished as the remnants of trading concerns of a bygone age. If we had fewer so-called "doctors," and more *bonâ fide* physicians and surgeons, there would be less difficulty in dealing with the question of medical reform.

#### QUESTIONS DISCUSSED IN PARLIAMENT.

The other questions of sanitary interest discussed in Parliament, but concerning which no attempt was made to legislate, were the working of the Compulsory Vaccination Acts and the repeal of the Contagious Diseases Act. The opponents of vaccination, who

fortunately number but few in the House of Commons, took every opportunity of endeavouring to throw discredit on vaccination by bringing up a few cases where, either by accident or by carelessness, vaccination had proved injurious to the health of those operated upon. It would be wearisome to a medical audience and waste of valuable time to discuss the question whether because impure vaccine, foul instruments, or careless vaccinators have in an infinitesimally small number of cases produced evil results, that therefore one of the greatest boons that medical science has conferred on humanity should be cast aside, and that in deference to a few noisy agitators mischievous or ignorant people should be allowed to diffuse smallpox by remaining unvaccinated, or permitting their children to remain so. On the 19th of June, 1883, a motion was proposed in the House of Commons by an opponent of vaccination—"That in the opinion of this House it is inexpedient and unjust to enforce vaccination under penalties upon those who regard it as unadvisable and dangerous." This was rejected by 286 votes to 16 in favour of an amendment proposed in an able speech by Sir Lyon Playfair—namely, "That in the opinion of this House the practice of vaccination has greatly lessened the mortality from smallpox, and that laws relating to it, with such modifications as experience may suggest, are necessary for the prevention of this fatal and mutilative disease." It can scarcely be expected that even this crushing defeat will silence the anti-vaccinators, but it may be taken for granted that the present House of Commons will not waste much more of its time discussing futile objections to an operation of proved utility.

The question of vaccination can scarcely be looked at seriously from any point of view other than that of the sanitarian, but the question of the Contagious Diseases Acts, it must be allowed, raises other questions than those of whether the so-called liberty of the subject should be interfered with in order to maintain the health of the community. It is universally conceded that venereal diseases of all kinds, especially syphilis, are a very serious evil, and a great danger to the health of the community, not only to the immoral, but also to the innocent. It is admitted that the primary object of the Contagious Diseases Acts is to diminish venereal diseases in garrison towns and naval stations, with the view of preventing the spread of these diseases among the men employed in the navy and army; and that their secondary object is to diminish public prostitution, and place

difficulties in the way of dissolute women plying their trade so as to outrage decency, make the streets of garrison towns and naval stations unfit for the use of decent women after dark, and, in fact, "render night hideous" by disorder of the foulest character. These were the main objects of the Acts, looking at them from a sanitary and a public point of view; but another important element enters into their administration—namely, the moral influence they exercised by deterring young girls from entering upon a degrading life, by diminishing the chances of young girls becoming demoralised by association with prostitutes, by diminishing the temptations to immorality among young men; and, lastly, they afforded a means of bringing good influences to bear upon the fallen women when placed in hospital or brought under the notice of the police. Against this it has been argued—

1. That venereal diseases have not been diminished.
2. That the interference with the liberty of the subject has gone even to the extent of the interference with and arrest of modest women as prostitutes.
3. That the moral benefits attained are insignificant.
4. That the sufferings produced by syphilis are a proper punishment for the immorality of those who contract the disease.
5. That even if the intentions of the Acts regarding sanitary and police supervision had been fulfilled, yet the benefit conferred would not justify the means, which is a regulation of prostitutes by the State, which makes immorality safe, and therefore encourages vice.

Anyone who has read the report of 7th August, 1882, and evidence before "The Select Committee [of the House of Commons] appointed to consider the Contagious Diseases Acts, 1866–69, their administration, operation, and effect," will find all these objections disposed of except one—namely, the 4th, which before a medical audience it is unnecessary to refute. We physicians know but too well what a large number of diseases other than venereal are the result of the violation of the laws of God, yet nevertheless we try to prevent and cure those diseases, and in doing so are only following the example of the great Physician, who said—"Behold, thou art made whole; sin no more, lest a worse thing come unto thee."

I have often, when looking into this question and considering the arguments used against the Acts, thought that had the promoters of these statutes, in the first instance, been sufficiently



hypocritical to state that the object of the bill was to diminish prostitution and promote public morality, instead of "for the better prevention of contagious diseases at certain naval and military stations," the result would have been different, and the extremely sensitive people who now so severely criticise the police and the "doctors" for their interference with modest women would probably have been criticising the same persons for not aiding with sufficient zeal the cause of morality.

It is much to be regretted that the House of Commons, in an evil moment, passed a resolution which completely crippled the hands of the Government in the administration of Acts of Parliament which, wherever in force, have been conclusively shown to have diminished prostitution, almost suppressed juvenile prostitution, rescued fallen women from a most frightful life of disease and immorality, and made them amenable to humanising and refining influences, and contributed to promote public order and decency, besides securing the hygienic advantages intended by the Acts. It is to be hoped that during this session of Parliament wiser counsels will prevail, and that the operation of the Contagious Diseases Acts will be confirmed by a vote of the House of Commons.

Besides the important questions which have been dealt with in Parliament either by way of legislation or debate, there are several other sanitary questions which have attracted public notice. Two of these have come with especial prominence before the public, particularly in London—these are the housing of the working classes and the administration of hospitals.

The housing of the working classes is a subject by no means new, and indeed it is difficult to say when it first attracted public notice; yet from the amount of attention which has recently been given to the subject since the publication of the little pamphlet entitled "*The Bitter Cry of Outcast London*,"\* it would almost appear as if the subject had been little attended to before. This, however, is by no means the case, and if we had the time, or if this were the place to undertake it, the history of this question would afford an interesting subject for inquiry. It is now a universally admitted fact that a large proportion of the artisan and labouring class are not properly housed, and that whether we examine into the question in great towns, in small towns, in villages, or even in

\* *The Bitter Cry of Outcast London*. London: James Clark & Co., 13 and 14 Fleet-street.

essentially rural districts, the same fact is only too evident, differing merely in degree according to the varying circumstances of the locality inquired into. Now, the question of the housing of the working class is a totally different one in a large town from what it is in a village or rural district. In the largest towns the people inhabit dwellings which not only, in common with those living in less populous localities, afford too little space in each dwelling, and which are unsuitable habitations for civilised man, but the houses themselves are also so closely packed together, and the adjoining lands so completely occupied with other buildings of a better class, that there is no place whereon to build suitable dwellings even when the money is forthcoming for the purpose. Thus it is not only the houses but the ground upon which they stand that is occupied unsuitably. The people who occupy these unsanitary houses in the very large centres of industry must, for the most part, live near their work (though not so near as many people imagine), and therefore to accommodate them sufficiently new houses must be provided at or near the same place. Another feature about these overcrowded dwellings is that, owing to the conditions under which their inhabitants live, they become a standing danger to the health and the morals of the community at large. Therefore it is incumbent on the community to get rid of these houses, and replace them by better. Now, this is the worst side of the case, as it presents itself in the largest towns. In rural districts, on the other hand, the land is not unsuitably occupied by a population, and it is a mere fact that the agricultural labourer occupies an unsanitary dwelling because he cannot pay for a better, does not care for a better, or no one thinks it worth while to provide him with the opportunity of obtaining a better dwelling. All these causes are also in force in towns, but in varying degrees. Between the largest towns and the rural districts we have many smaller towns where the question of how to obtain land at a moderate rate and how to dispose of the existing unsanitary dwellings, is a comparatively small matter.

I cannot here discuss all the details of these questions, nor criticise the numerous articles and papers which have recently been written thereon. We find great statesmen like Lord Salisbury<sup>a</sup> and Mr. Chamberlain,<sup>b</sup> active social scientists, and

<sup>a</sup> 'Labourers' and Artisans' Dwellings. *National Review*. November, 1883.

<sup>b</sup> 'Labourers' and Artisans' Dwellings. *Fortnightly Review*. New Series. December 12, 1883.

writers on political economy like Lord Shaftesbury<sup>a</sup> and Mr. Arnold Forster,<sup>a</sup> steady practical workers like Miss Octavia Hill,<sup>a</sup> and last, and not by any means least, Mr. William Glazier,<sup>a</sup> the working artisan, discussing the various knotty points involved in this great question. The main questions are—What is it to cost? and who is to pay for it? The question of cost is very different in different places. In London it cost £1,661,372 to obtain 42 acres of “unhealthy areas,”<sup>b</sup> provide new streets, and make them fit for building for the purpose of artisans’ dwellings, or £39,580 per acre. In Dublin the cost of obtaining an area of 4½ acres, and treating it in a similar manner, was £27,000, or about £6,352 an acre. A second area in Dublin has been acquired, and will likely cost proportionally the same rate. At all events, it is clear that this kind of work costs six times as much in London as it does in Dublin, and therefore is a striking example of how differently these matters must be viewed in different places. The cost of reconstruction is a different matter, and it has been demonstrated by experience that Artisans’ Dwellings Companies can obtain remunerative dividends, and house their tenants comfortably at no higher rents than those paid by tenants of similar means in rotten old tenement houses. Thus the Dublin Artisans’ Dwellings Company has housed over 2,500 people, and easily pays 4 per cent. on the capital invested. Similar results have been obtained elsewhere; therefore the question of housing artisans who can afford to pay rents varying from 3s. 6d. to 7s. per week can be solved on ordinary commercial principles if land can be obtained at a moderate rate whereon to erect the buildings.

We cannot deal with this question at all unless we admit—first, that clearing of unhealthy areas (*i.e.*, areas covered by unhealthy and overcrowded houses) is an operation which must be carried out as a public measure, and in many cases at an immediate pecuniary loss to the public; and, secondly, that the providing of house accommodation is a purely commercial operation, which must be carried out on commercial principles, and can be carried out at a reasonable profit. The most difficult point which has lately arisen in connexion with the question of housing the working classes is—How are the very poor, who require only one room, and cannot afford

<sup>a</sup> *Common Sense and the Dwellings of the Poor* (4 articles). *The Nineteenth Century*. December, 1883.

<sup>b</sup> Report of Select Committee of the House of Commons on Artisans’ and Labourers’ Dwellings, 19th June, 1882, No. 235; also 2nd Aug., 1881, No. 358.

to pay more than 2s. or 2s. 6d. a week, to be housed? No doubt this is a difficult question, but it is quite clear that if persons cannot afford to live in a healthy dwelling, and pay for it, that such persons are precisely in the same position as those who cannot provide themselves with sufficient food or adequate clothing—in other words, they are paupers, and to provide such persons with houses at the public expense is merely granting them poor relief. I believe, however, that it will be found that decent dwellings for the poorer artisans in large towns can be provided at 2s. 6d. per room per week on commercial principles, but to provide paupers with house room other than in the union workhouse is out of the question when viewed on ordinary economic principles.

A great deal of discussion has arisen in connexion with this subject as to who is to bear the loss which will be involved in clearing unhealthy areas. Some have suggested the ground landlord, others that no compensation should be given to the owners of these wretched tenements—in other words, that the present house jobbers should be compelled to bear a great deal of the expense, as they have hitherto obtained all the profit. I cannot see any justice in either of these propositions. As a rule, the ground landlord has little, in many cases only a nominal, interest in the property, which has been let off on a long lease many years before—in fact, he is a mere rent-charger to a small amount, and can never be anything else. Now, regarding the house-jobber or immediate landlord of the occupying tenements, I think we should be more merciful upon this individual than we are usually inclined to be. In many cases he is himself a tenant paying a high rent; in some cases the number of interests involved in tenement houses is something wonderful, and the amount obtained by each interested person insignificant. I heard of one case in Dublin where there were no less than fourteen interests between the ground landlord and the occupying tenant, the owner of the land being entitled to the large sum of one shilling per annum for ever. Where such a state of things exist, it is clearly the system that is at fault, and the system is the result of the custom of the community going on for years, it may be for hundreds of years. It is therefore clear that it is the community which should, at its own cost, get rid of a system which it has itself created and sanctioned by usage. No doubt urban sanitary authorities are much to blame, since they came into possession of adequate powers, for the growing danger arising from the evils of overcrowded and dilapidated houses; but who are these

sanitary authorities? Why, they are the elected representatives of the people, and here again it is the fault of the community, and the community must bear the money loss. But will this be a real loss? I feel sure it will not. There is nothing more costly to a community than poverty, sickness, and crime, and all these three conditions produce and reproduce one another. Improve sanitation and you will diminish disease, diminish disease and you will diminish pauperism, reduce pauperism and you will materially diminish crime; and again, looking at the matter from a purely commercial point of view, improve the condition of dwelling-houses and you increase the value of property liable to local taxation, and acquire greater security for local rates.

Thus far I have been dealing with the question of housing the working classes in towns, but we—especially in Ireland, where we have a large rural population—have to consider how our agricultural labourers are to be housed. We are often told that the agricultural class are healthy; they do not die at the rate of 40 per 1,000 per annum as their urban fellow-countrymen of the same rank in life. This may be so; but do they live as human beings should live in a civilised land? They do not, is my unhesitating answer. It is owing to a mild climate, a bountiful provision of fresh air, cheap food, cheap fuel, and simple requirements, that the Irish agricultural labourer is not more unhealthy than he is. He lives so much in a state of nature in many parts of the country that a house is a comparatively small matter in his domestic economy—it is, in fact, a shelter, and nothing more. Now, this is not as it should be in a civilised land. “The Labourers’ (Ireland) Act, 1883,”<sup>a</sup> is a step in the direction towards providing suitable dwellings for the agricultural labourers in this country; but, at the same time, this Act presents many complications and difficulties in its working, just as there are many difficulties in working the Artisans’ Dwellings Acts in towns. I much fear that commercial enterprise will do little in providing accommodation for agricultural labourers as compared with town artisans, for the simple reason that while the latter class is increasing, the former class is diminishing. While manufacturing industries are increasing and calling for labour in towns, tillage is decreasing, and agricultural machinery diminishing the demand for labour in the country. Thus commercial enterprise is unlikely to provide a commodity in diminished request, and as dwellings for agricultural labourers is unfor-

<sup>a</sup> Loc. cit.

unately such a commodity, it is difficult to see how it can be provided except through artificial means, such as the "Labourers' (Ireland) Act." It appears to me the conditions of providing houses for rural populations are almost the reverse of those demanded for urban populations. In the former the land can be easily obtained; in the latter this is the great difficulty. In the former house-building is not likely to be a commercial success; in the latter it is almost certain to pay. I believe nevertheless that if great care is observed in providing dwellings for agricultural labourers, such can be provided by farmers if they are content with reasonable profits in the way of rent, and are decently liberal in the matter of wages to their labourers; but it is difficult to see how a commercial company or an individual could invest money in Agricultural Labourers' Dwellings with a prospect of a reasonable interest on the capital invested. Anyone who has looked into the question of how the labouring classes in Ireland are housed in rural districts, must be convinced that until an improvement is effected in this direction there is little chance of much progress of any kind in this country.

The last point to which I shall refer is one which is coming more and more prominently forward every year—namely, the condition of our great medical charities and their relations to the public and the profession. The splendid scale upon which provision has been made for the sick poor, by the bequests of the charitable and benevolent, the constantly pouring-in subscriptions and donations of liberal and charitable philanthropists, with some assistance from the State and local funds, is a source of just pride to this country. Latterly, however, it would seem that philanthropy has outrun discretion, and that at last we have reached a point, especially in London, where the means at the disposal of hospital authorities are becoming quite unequal to the demand for charitable medical aid. This is the point which has really fixed public attention, and which has caused so much discussion in the public journals, in the way of letters by Mr. H. C. Burdett and others. It is quite clear that hospital work in London, and I am afraid also in Dublin, cannot be carried on much longer on the present increasing scale with the present sources of income. Under these circumstances, the public have naturally begun to inquire why this increased demand for gratuitous medical advice? and the questions have been asked—Is this demand a fair one? and should the supply be increased? Now, I feel confident that if the public

receive a satisfactory reply from hospital managers to the first query, that they will give a ready answer to the second, and provide the means to make that answer a substantial one. Inquiries point to the fact that the demand is, to a great extent, unreasonable; that many persons not entitled to free medical advice are obtaining it, and thus not only are the contributions of the charitable being misapplied, but the members of our profession are being systematically cheated by persons able to pay for medical attendance. In too many cases the applicants at hospitals are well able to pay for medical advice at ordinary rates, and in a still greater number the applicants are sufficiently well off to become members of sick clubs, provident dispensaries, or to—at least—contribute something to the hospital that relieves them. Again, no doubt, there is much reform required in hospital management, not only in finance, but also in details of construction, nursing, general organisation, and even of medical attendance on the inmates. Vast improvements have taken place in these matters in Dublin hospitals during the past few years, and I think I may say that an institution with which I have the honour to be connected—the Dublin Hospital Sunday Fund<sup>a</sup>—has had a good deal of influence in promoting these improvements.

The question connected with hospital management to which I have referred had attracted so much attention in the year 1881 that at the Congress of the Social Science Association held in Dublin in that year the important question, "Is it desirable that hospitals should be placed under State supervision?" was discussed in the Health Section of the meeting. The question was introduced by an important paper by Mr. H. C. Burdett.<sup>b</sup> After the discussion a resolution was carried by the Section recommending the Council of the Association to petition the Crown in favour of a Royal Commission of inquiry into the matter. The Council appointed a committee to deal with the question, and this committee approved of the suggestion of the Health Section of the Congress, recommended its adoption by the Council, and at the same time suggested a conference between the managers of the various London hospitals upon questions of hospital management. A memorial on the subject was addressed to the Home Secretary; the question was again discussed at the Nottingham Congress<sup>c</sup> in

<sup>a</sup> Annual Reports of the Dublin Hospital Sunday Fund, 1874-83.

<sup>b</sup> Transactions of the National Association for the Promotion of Social Science, 1881.

<sup>c</sup> Ibid., 1882.

1882, and a resolution similar to that passed in Dublin was again carried, and the Council of the Association in November, 1882, took steps to hold a conference on the administration of hospitals as a preliminary to a more decided move in the direction of a Royal Commission. The conference met in July, 1883, and a most exhaustive discussion took place. The report of this conference, with a useful introduction and valuable appendix, has been published as a separate volume under the able editorship of Mr. J. L. Clifford Smith, Secretary of the Social Science Association.\* This conference has resulted in the formation of "The Hospitals Association," with Mr. Clifford Smith as its honorary secretary, and many well-known members of our profession and other philanthropists as its managing body. I commend the study of Mr. Clifford Smith's report to those who are really interested in hospital work, and I would suggest that we in Dublin might learn much by a conference among our hospital managers. We have many defects, though not of the same kind as those which exist in London hospitals, and there are many merits to be found in the London hospitals which we either possess in but a small degree or not at all.

I shall now bring these remarks to a conclusion, and trust that I have been successful in bringing under review the majority of the points connected with Public Health and State Medicine which should at present be uppermost in the minds of those who make such subjects their study. I believe that many of the points raised in this address might serve as useful texts for papers for this section, and be fit subjects for discussion at the approaching Congress of the Sanitary Institute of Great Britain in Dublin next October—a congress which, I trust, will be of benefit to State Medicine in Ireland, and from which will date some great and useful movements for the improvement of the Public Health. We members of the medical profession in Dublin should not forget to maintain our reputation as leaders in the promotion of State Medicine. So long ago as the year 1839 the late Dr. Henry Maunsell first publicly formulated what the scope of State Medicine, or, as he termed it, "Political Medicine," should be. It was at the meeting of the British Medical Association in Dublin in 1867 that the joint committee on State Medicine of the British Medical Association and Social

\* *Hospital Management: being the Authorised Report of a Conference on the Administration of Hospitals, &c., &c.* Edited by J. L. Clifford Smith, &c. London: Kegan Paul, Trench, & Co. 1883.



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Science Association was founded, and all that has resulted since in the way of legislation may be said to have been owing to the work of this influential committee. Let Dublin then still be in the front, and still follow the lines laid down by Henry Maunsell nearly half a century ago. There can be no better evidence of our desire to do so than the institution of this section in the Academy of Medicine in Ireland.

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ART. XII.—*A Case of Poisoning by the Ingestion of Tainted Meat.\**

By J. HAWTREY BENSON, M.D., Univ. Dubl.; F.K.Q.C.P.I.;  
Physician to the City of Dublin Hospital.

THOUGH poisonous effects from the consumption of tainted food are by no means uncommon, comparatively few cases have been published in which the actual clinical details have been described consecutively. The obscurity, too, which still hangs round the problems incidental to almost every case, and the irony with which fate selected her victim in this case, make me hope that these short jottings may not be uninteresting. More especially do I hope it as so much attention has lately been directed into this channel by the writings of Panum, Francesco Selmi, and Dr. Cameron of this city, and by the mystery which still surrounds the properties and the genesis of those interesting cadaveric alkaloids, the ptomaines.

CASE.—On Thursday, December the 27th, I was hastily summoned to a house in Pembroke-road, and there I found that the sick man was our distinguished medical officer of health, Dr. Charles A. Cameron.

I should say that it is by his special permission that I name the patient, as he felt rightly that it always authenticates and increases the interest of a case when the individual to whom it refers can be named.

Dr. Cameron then explained that on the previous day he had eaten about one ounce of roast turkey which was rather high, yet was not so high as to prevent six others at table from dining off it. All the others partook of the white breast, and three of these were made slightly ill, with nausea and abdominal pain, during the following night. The doctor used a small portion of the back where the meat was red. Immediately after he had eaten it he became conscious of a most disagreeable effect, and for the rest of the day he felt nauseated, and had frequent sickening eructations of foetid gas. But, with philosophical expectancy, he went to bed without having taken any measure to rid himself of the pernicious

\* Read before the Medical Section of the Academy of Medicine in Ireland, January 18, 1884. [For the discussion on this paper see page 278.]

contents of the stomach. The following night he suffered severe abdominal pain, nausea, foetid eructations, feverishness, headache, and absolute sleeplessness.

Next morning (Thursday) though feeling very ill, he rose at the usual hour, took a mustard emetic, with only a partially successful result, and went down to the City Hall, where he had to give evidence at a Local Government Board inquiry. While under examination he became faint; broke out into a cold sweat; was carried into an adjoining room, and there vomited. He then got home and sent for me.

At 12 o'clock noon I found him pale, cold, and faint, reclining in an arm chair. The offensive eructations had entirely ceased since he vomited in the City Hall, and the nausea had diminished, but he had considerable abdominal pain, and great tympanites; no action of the bowels; pulse 84. Ordered a strong rhubarb and saline draught with carminatives, and a turpentine fomentation to abdomen, and with difficulty got him up to bed.

At 5 o'clock I saw him again; found he had slept a little, and was told he had vomited the draught; no action of the bowels. He was now extremely faint; pulse 92, intermittent, scarcely perceptible, and so compressible that it was only by the most watchful adjustment of pressure that I could feel the pulse at all. The first sound of the heart was distinct though very weak, but the second sound was quite inaudible over the aortic valves. He had also much præcordial anxiety, and a feeling of pressure akin to pain, referred to the heart; dilated pupils, too; dimness of vision, and severe headache. The skin was cold but dry; his throat was dry and sore; articulation was very difficult; tympany and abdominal pain were still great; and there was marked tenderness along the descending colon.

Finding him in this extremely prostrate condition I sent down at once for some champagne, and in two draughts he drank a pint of that wine, and he eat a morsel of dry toast. He immediately revived somewhat, his pulse becoming more perceptible. Ordered a dessertspoonful of whisky with soda-water every two hours, and the draught to be given again in halves, with an interval of half an hour.

At 9 p.m. both heart sounds were audible, though extremely feeble; pulse 104; temperature 101·8°. He complained much of dry, sore throat; abdominal tympany and tenderness still. The draught had been retained, but the bowels had not acted. The skin was now hot and dry, and the patient complained of acidity of the stomach, which he attributed to the champagne. Ordered a diaphoretic and antacid mixture for the night, and to continue the whisky with soda-water and milk every four hours.

That night, in spite of the diaphoretic, he suffered intense, burning, dry fever, having to throw off all bed-clothes except the sheet. I regret

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having no thermometric observation taken during this time, but his temperature must have risen considerably beyond what it was at 9 p.m. Towards morning he had two very copious, watery, scalding evacuations without any considerable amount of fæculent matter, and after these he felt immediate and most marked relief. He also passed a large quantity of dark-coloured urine laden with deposit and intensely acid.

Next morning (Friday) I found all fever had disappeared; temperature 97°; pulse 72; sore throat still; slight uneasiness in abdomen, with considerable tenderness in course of descending colon. Had eaten some breakfast. Ordered calomel, four grains.

5 o'clock.—Pulse 76; temperature 97°; symptoms unaltered; calomel had not acted. Ordered a castor-oil draught with carminatives.

29th.—Better in every respect, though still very prostrate. Temperature and pulse same as previous day. Up to this the patient had had no appetite whatever, but now, fortified by the principle "*similia similibus curantur*," he asked leave to eat for his dinner "*a little bit of turkey*"!!!

From that out the patient gained strength rapidly, with, however, a subnormal temperature for several days after.

But the most interesting feature of the case I have yet to mention. It is the character of the urine passed during the second night—that in which the septic effects had reached their maximum.

The following is an abstract of the analysis made in Dr. Cameron's laboratory by Mr. John Macallan, Demonstrator of Chemistry in the School of the Royal College of Surgeons:—

The specimen of urine had a strongly acid reaction, and deep reddish yellow colour. Its appearance was turbid, and a sediment soon deposited from it. Its specific gravity at 60° F. was 1038, which became reduced to 1037 after separation of the deposit. It contained no trace of sugar. Albumen was present in very slight amount. The deposit, which was of a brick-red colour, and was entirely soluble on heating, when examined microscopically, was seen to consist of well-developed rhomboidal crystals of uric acid, together with a small amount of urates. An estimation of the urea, made by Russell and West's process, gave, in 1000 cubic centimetres of urine, a result of 34 grammes of urea, and in the same quantity were found 1.39 grammes of uric acid. Hence the unusually high specific gravity.

The large amount of these ingredients may be better appreciated if I mention that, from data supplied to me by Mr. Macallan, I calculate that the mean of the estimates made by Millar, Becquerell,

Simon, and Roberts, for these substances in 1000 cubic centimetres of healthy urine, is for urea 16·05 grammes, and for uric acid 0·45 grammes.

This analysis is remarkable, and worth recording, as I have not been able to find any published analysis of the urine in similar cases.

One of the first questions that might arise in this case is—was it a case of “septic poisoning” by the absorption of some of the cadaveric alkaloids, or, was it a case of “septic infection” caused by the entrance into the blood, and by the multiplication therein, of a specific micro-organism?

Indeed, I would scarcely raise the question had not the “sausage poison” been lately attributed by Van den Corput to the presence, in some instances at least, of a species of sarcina—the “sarcina botulina.” And again, the Welbeck and the Nottingham cases of meat poisoning, which occurred in 1880, were proved by Dr. Klein to have been caused by a species of bacillus, in the state of spore-formation, which he found in enormous quantity in both the meat, and in most of the tissues and organs of some of those who died from the effects.

In the meat poisoning cases, too, which took place at Rosegarland, in the Co. Wexford, last August, Dr. Cameron, who specially investigated and published the circumstances, tells us “the boiled beef was permeated with bacteria and minute fungi,” though he does not say, nor do I believe he thinks, that these produced the poisonous effects. The question that I put is, therefore, I think, a fair one for discussion.

I have no hesitation in saying that I believe the poisonous effects in the case before us were not produced by micro-organisms. The rapidity with which the symptoms began, and, more especially, the rapidity with which the *acute* symptoms disappeared after copious evacuation had taken place—the extreme lowering of arterial tension—the dilatation of the pupils—and the dryness of the mucous membranes—all point to the ptomaines as the cause.

Had I thought that micro-organisms had taken any part in the causation of the symptoms, I should at once have given a large dose of calomel, on account of the destructive effects of this drug on organised ferments in the alimentary canal.

Another question forces itself irresistibly to the front—why is it that poisonous effects from tainted meat are found so seldom in proportion to the great frequency with which game and other

articles of food are used in a fashionably "high" condition? In other words, what determines the formation of these deadly ptomaines, for it is clear they are not always present in commencing septic changes? Can it be a question of the temperature at which these changes take place, or, of exposure, or non-exposure to the atmosphere? And are they formed in all cases, if only those changes proceed far enough? Again—can the existence of disease at the time of the animal's death have any influence?

Doubtless, in this case the patient was rendered a more easy prey to those poisonous principles by the fact that he was, at the time, both mentally and physically depressed.

ART. XIII.—*Puerperal Convulsions, with Albuminuria, Coma, and Prolonged Insensibility, treated by Local and General Bleeding, &c.; Recovery.* By RICHARD RYAN, M.D., Medical Officer, Bailieborough Union Hospitals.

Puerperal eclampsia is a disease so alarming in its onset and so frequently fatal in its termination that it has received much attention from the most eminent members of our profession, yet its treatment is far from settled. The usual division into hysterical, epileptic, and apoplectic is satisfactory as far as the first and third are concerned, but I consider the second defective as implying too close a relation to epilepsy and withdrawing our attention from the acute albuminuria and the uræmic nature of the attack. If we compare the very little danger attending an epileptic attack uncomplicated with albuminuria with one in which this symptom with its attendant phenomena is present, the importance of bearing the condition of the kidneys in mind becomes manifest with a view to prognosis and treatment. As the cases which I intend describing in this communication were attended with acute albuminuria and occurred before delivery, the remarks which I am about to make will apply to such cases. The treatment laid down in text-books of the present day may be thus summed up—Chloroform inhalations, bromide of potassium, hydrate of chloral, morphia, and other antispasmodics, cold effusion to the head, counter-irritants and purgatives; venesection is but tentatively recommended or condemned.\*

Now let us take a typically severe case of puerperal convulsions

\* See Playfair's Midwifery. Vol. II., p. 308-9.

with albuminuria, and see which of those remedies ought we to have recourse to on theoretical grounds, and then give the results as far as we have been able to put these *à priori* reasons to the test of practice.

The patient is in the last months of pregnancy, and with or without some trivial premonitory symptoms is seized with convulsions, which after some time become more frequent, and there is no recovery of consciousness in the intervals; the breathing is stertorous, the pulse is slow and labouring or rapid and feeble, and now she is in deep coma. The coma in such case is produced by paralysis of the higher nerve-centres from an impure blood circulating in them, or from serous effusion, or from hæmorrhage.

Such a patient can hardly swallow, so that we cannot properly administer a good calomel and jalap purge, or if we get it into her stomach it will probably remain there inert, for absorption is suspended with the other functions except respiration and circulation. The same objection applies to bromide of potassium and hydrate of chloral. Morphia aggravates the suppression of urine, hinders the elimination of the morbid material circulating in the blood, increases the stertor, and if it stops the convulsions will probably deepen the coma into death. To give such a patient chloroform is, I believe, to extinguish the faint chance of life she has. It may control the convulsions, which in such a case as I have pictured can hardly be regarded as the worst symptom, but what of the already dangerously embarrassed respiration, the flagging overwrought heart, and the coma? These will all be intensified and the transition to death made easy. Of the counter-irritants, cantharides is contraindicated by the albuminuria and renal congestion. Venesection, I believe, is the remedy which best meets the causal and symptomatic indications, which is quickest in its action—and in such a case as I have sketched minutes are of consequence—and which in critical cases will give the best results. What we have to contend against is acute congestion of the kidneys, partial or complete suppression of urine, retention of some morbid material in the blood, which, circulating in the nervous centres, produces the convulsions, and our efforts ought to be directed to relieve the renal congestion, to promote the action of the kidneys, skin, intestinal tract, and other excretory organs, and combat the tendency to death by coma or asphyxia. Venesection fulfils these indications when aided by warmth to the surface and extremities, sinapisms and hot poultices to the loins,

enemata and purgatives by the mouth as soon as the patient can swallow. The following advantages are claimed for it:—

1. Venesection lowers the vascular tension, and thereby (a) permits the renal capillaries to discharge themselves into the veins; (b) promotes absorption of any serum which may have been poured into the nerve-centres and produced anæmia therein; (c) diminishes the quantity of venous blood and increases the quantity of arterial blood in the nerve-centres and muscles of respiration and circulation, thus increasing their "irritability;"<sup>a</sup> (d) favours the absorption and special action of remedies administered by the mouth or otherwise, such as purgatives, bromide of potassium, chloral, &c.; (e) lessens the risk of cerebral hæmorrhage; (f) relieves the distended right heart of the venous blood which it is unable to propel through the pulmonary capillaries during the arrest of respiration which takes place in the paroxysms.

2. By means of venesection we immediately withdraw from the system a certain quantity of the morbid material which has produced all the mischief, whether this be urea,<sup>b</sup> carbonate of ammonia,<sup>c</sup> or creatine and creatinine.<sup>d</sup>

3. If labour be imminent or have commenced, venesection relaxes the os uteri and favours the early expulsion of the fœtus, thereby relieving the erethism of the nervous system and the pressure on the abdominal veins, which are present in a variable degree during pregnancy.

The objection to venesection in uræmic convulsions occurring in the progress of chronic Bright's disease—viz., that it increases the poverty of the blood and tends to the usual cause of death by asthenia—does not apply to such cases as I am about to record, where there has been no previous renal disease and no failure of the vital powers, and where once the immediate danger of death by coma or asphyxia is removed and the kidneys resume their function, the patient rapidly returns to a state of perfect health.

The principles of treatment laid down above have been adopted with the happiest results in the following cases:—

CASE I.—June 4th, 1879.—Called to attend Mrs. A. On arrival I was informed that she was in the eighth month of gestation. For about two months she was complaining of pain in the head and loins, vomiting, and lassitude, and latterly her friends noticed œdema of the feet and puffiness of the face. This was her second pregnancy. I attended her in her first

<sup>a</sup> See Foster's Physiology. P. 95.

<sup>b</sup> Hammond.

<sup>c</sup> Frerichs.

<sup>d</sup> Oppler and Schottin.

confinement, which ended favourably about four years previously. She had become fat in the interval. About six hours before I saw her she had a severe attack of epileptic convulsions, after which her mind was confused, and having slept for half an hour, she had another similar fit.

On examination, pulse 84, moderately full; throbbing of cervical vessels; face congested, but cold; general surface cool. About an ounce of dark-coloured urine, which I drew off by catheter, became semi-solid on the application of heat. Her bowels had not been moved for thirty-six hours. Her manner was drowsy and heedless.

Gave a soap and water injection, which brought away some hard fæces; then twenty grains of calomel and twenty grains of rhubarb, which her stomach immediately rejected. Another and a severer attack of convulsions supervened, lasting about ten minutes. When the convulsive movements ceased, and whilst she was yet unconscious, I took about thirty-five ounces of blood from the arm. She now became conscious. I repeated the calomel and rhubarb draught, to be followed by a senna draught in three hours; applied a large mustard blister to the loins, followed by large, very hot, linseed poultices every four hours; and prescribed a mixture containing spirit of nitrous ether, and spirit of juniper, to be taken every three hours. A warm jar was applied to the feet, and I ordered them to supply her freely with hot whey and flaxseed tea, and, if the fits returned, to put twelve leeches over the kidneys.

5th.—Bowels well moved. Had a slight attack just before they were moved, but none since. Urine copious; contains only a trace of albumen. Has no remembrance of my attending her on yesterday. Cautioned her to attend to her bowels, to avoid cold, and to send for me at once should the fits return, or any sign of labour make its appearance.

18th.—Labour has come on, head and funis presenting; delivered by podalic version; fœtus apparently dead since sixth month; skin dark-coloured; cuticle peels off. She had no return of the convulsions. She complains of a slight numbness and want of perfect power of left arm and leg, but this is only noticeable to herself. Hardly a trace of albumen in the urine. Some œdema of feet continues.

August 4th.—No albumen in urine; no œdema of feet.

I saw her again in about a year. She was complaining of occasional fulness and pain in head, and some numbness in left arm and leg. She said her head felt as it had been before the convulsions, and asked to be bled. She had become fat and florid. There was no albumen in urine. I took about twenty ounces of blood from the arm. She enjoys excellent health since, but has had no family.

There was, probably, some slight cerebral hæmorrhage or serous effusion in this case, as indicated by the impairment of nervous power on the left side. It is in this way that the epileptic may pass into the apoplectic variety of puerperal convulsions. I think I may fairly claim



that the free venesection, by diminishing the vascular tension, besides its immediate effect on the convulsions, prevented a severe, and perhaps irremediable attack of apoplexy.

CASE II.—November 15th, 1883.—Called to attend Mrs. B., in consultation with Dr. M'Kenna, of Carrickmacross. She was in the eighth month of her third pregnancy. She thought she caught cold a few days previously, and her face became a little swollen. Had first attack of convulsions at six o'clock a.m., before getting up; had another about two hours after. From that up to the time I saw her the fits increased in frequency and intensity. She was unconscious since the third attack; and now, at my visit, ten o'clock p.m., she was getting the fits almost every half hour. Her breathing was stertorous; her face much congested and œdematous; the bed was wet, as if she had passed urine during the convulsions. A little urine drawn off by the catheter was dark-coloured, and became semi-solid on boiling. Pulse 90, very small and weak. She lay in a state of profound coma, alternating with epileptic attacks, in which so great became the dyspnœa as the fit reached its climax, that we feared each attack would end in total asphyxia; and when the fit ceased, it was only to leave her in the even more dangerous state of coma. She could not swallow.

Having agreed that venesection afforded the only chance, we hastily prepared to adopt it, fearing that she might die before we could give her any assistance. On opening the vein in her arm, the blood for the first five minutes came in a mere trickle, but, when about ten ounces had been abstracted, it came in full stream, and the pulse increased in volume and strength. We bled her to forty-five ounces. Applied sinapisms to loins, back of neck, and calves of feet, followed by hot poultices to loins; gave a soap and water enema, and a calomel and jalap purge by the mouth with difficulty, followed in an hour with thirty grains of bromide of potassium. On examination, the os was soft and dilatable, but no other appearance of labour pains. Ordered a diaphoretic mixture, combined with bromide, warm jars to the feet, and warm whey if she could be got to swallow. The fits and coma still continue.

16th.—The bowels were moved. The fœtus was expelled about four o'clock a.m., during a convulsion. The fits continued, as before, up to eight o'clock a.m., when they became less frequent, and ceased about eleven o'clock a.m. The breathing is still stertorous; she is in deep coma. They could not get her to swallow any of the medicine or drink ordered. Passed some urine involuntarily.

17th.—Had no return of the convulsions; the breathing only slightly stertorous, and the coma not quite so profound, but she is quite unconscious; cannot be roused or got to take any drink, and only manifests some indications of pain. Some urine drawn off by the catheter did not show quite so much albumen. Pulse, 90; temperature, 98·8°. We wet-

cupped over the kidneys to eight ounces; ordered hot poultices, lotions, and warm jars to be continued to feet; enemata of beef-tea every four hours, until such time as she can be got to swallow. The skin is acting slightly.

18th.—She drank the beef-tea since nightfall yesterday, slept a heavy sleep during the night, but breathing not stertorous, and she could be roused to answer questions. She passed no water for past twenty hours, but on examining the bed we found she had done so in large quantity whilst the nurse was informing us about the case. A little urine, drawn off by catheter, contained no albumen. Her recovery was henceforth rapid, except for some diarrhœa, which, I am informed, she suffered from subsequently during some weeks. She does not remember that I attended her at all, although she recognised me when I spoke to her on the 18th. She was seventy-two hours unconscious, and sixty hours in a state of coma, during which she neither ate nor drank. She had convulsions for thirty hours, and for eighteen hours of these she had them almost every half-hour. There was a peculiarly disagreeable odour from her breath on the 15th, 16th, and to a less degree on the 17th; it resembled somewhat the smell given off from her urine when boiling it. This smell was not observable on the 18th. For some weeks before the onset of the convulsions she was suffering from diarrhœa, which, as well as the subsequent diarrhœa, was probably caused, as pointed out by Treitz, by the urea, not excreted by the kidneys, being poured into the intestines, where it set up irritation. For this she had been using pretty freely the highly-popular remedy, brandy. And I think we may infer that it increased the renal congestion, diminished the excretory action, already deficient, of the kidneys, impeded the vicarious action of the other excretory organs, and perhaps precipitated the convulsions.

The continuance of epileptic convulsions after delivery, as in my second case, their subsidence for many days before delivery when the albumen has disappeared from the urine and the renal function is restored, as in my first case, and their occurrence in acute and chronic Bright's disease, totally unconnected with child-bearing—all go to prove that pregnancy is merely a predisposing condition, and that what we have really to combat in these cases is uræmic convulsions induced by the accumulation in the blood and tissues of something which is not eliminated by the acutely congested kidneys. Were this more prominently insisted on, and the uræmic nature of these epileptiform convulsions more generally recognised, the danger of giving chloroform, or opium in any form, or blistering with cantharides where the patient is semi-asphyxiated, comatose, and suffering from arrest of the renal function, would be obvious,

however harmless or even useful such remedies may be in less severe cases where the eminently dangerous symptoms just mentioned are not present. It is generally conceded that the causes which produce convulsions and coma—viz., an impure or a deficient blood supply to the nerve-cells, are precisely those which, by affecting the glomerular epithelium cells of the kidneys and impairing their functions, render them incapable of retaining the albumen of the blood. Venesection offers a quick, easy, and safe means by which these causes and their dangerous results may be overcome in suitable cases.

#### MACROGLOSSA TREATED BY PAQUELIN'S CAUTERY.

HELPERICH, in 1879, employed ignipuncture with successful results in the treatment of macroglossa, and now Dr. Weizsäcker relates an equally successful case which occurred in Brun's clinic at Tübingen. The greatly enlarged tongue of a girl, five years of age, projected constantly out of the mouth, and greatly embarrassed respiration. Fourteen punctures were made with a Paquelin, from above downward, at about a centimetre from each other, and five in a transverse direction, without a drop of blood being lost. On the third day, secondary hæmorrhage occurred from the intercommunication of three of the punctures, but this was arrested by chloride of iron. The tongue gradually diminished in size, was withdrawn within the mouth, and all embarrassment of respiration ceased.—*Med. and Surg. Rep.* and *The Analectic*.

#### SPASM OF THE TONGUE.

E. GANGHOFFNER (*Centralbl. für die med. Wiss.*) describes the following case:—A youth, aged nineteen, had from infancy suffered under a spasmodic affection of the muscles of the tongue, which, when he began to speak, protruded from his mouth. Simultaneously with this movement he experienced jerking of the right lower extremity. In repeating by heart a poem, in singing, or in rapid speaking, the spasm of the tongue would pass off. The patient was anæmic, but otherwise in good health. When not speaking, he seemed to have nothing about him abnormal. His mother had suffered from deafness from her childhood; a brother also had presented a similar defect of speech; a sister was epileptic. Treatment by bromide of potassium had no influence over the spasms. Doubtless this was a case of chorea, the spasm of the tongue being a local manifestation of this neurosis.—*Med. Record* and *The Analectic*.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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#### *RECENT AIDS TO CLINICAL NOTE-TAKING.*

1. *Daily Clinical Fever Chart, designed to record in a simple and graphic manner the daily progress of a case of Continued or Eruptive Fever; adapted for daily use in private and in hospital practice.* By J. MAGEE FINNY, M.D., Dubl.; F.K.Q.C.P.I.; Physician to Sir Patrick Dun's Hospital, Dublin. Dublin: Fannin & Co. 1884.
2. *Suggestions for a Plan of Taking Notes of Medical Cases.* Arranged by GEORGE F. DUFFEY, M.D., Dubl.; Fellow and Censor, King and Queen's College of Physicians; Physician to the City of Dublin Hospital; Lecturer on Materia Medica, Carmichael College of Medicine, &c. Dublin: Fannin & Co. 1884.

1. In these days, when the collective investigation of disease is occupying so largely the attention of the profession, any scheme which will enable the busy practitioner to keep full notes of his cases with the least possible loss of time to himself, is sure to find favour; and the chart designed by Dr. Finny to enable all the important points of a fever to be recorded from day to day, by means of a few simple signs and abbreviations, is well adapted to meet a growing want.

Each chart consists of two pages—the first a temperature chart; the second a sheet divided into sections for recording the symptoms due to the nervous, circulatory, cutaneous, digestive, and urinary systems, any intercurrent complications, and the treatment.

These charts should prove specially useful to the medical officers of institutions (such as union hospitals, dispensaries, &c.), where the number of patients is large and the skilled assistance small.

2. Dr. Duffey's suggestions for medical note-taking are good, and any student who will take the trouble to fasten one of these "plans" inside his hospital note-book, and consult it when about

to take notes of cases, will almost unconsciously find himself being moulded into habits of close observation. We would suggest to Dr. Duffey that his little work might be made more handy, and less likely to be worn by carriage in the note-book or pocket, were it in pamphlet form, not folding up as at present.

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*The Medical Annual and Practitioner's Index.* 1883-84. London : Henry Kimpton. Pp. 321.

THIS is the first issue of a work that seems very likely to become a permanent yearly visitant, inasmuch as, in a small compass, it forms a year book, a directory, and a concentrated advertisement-list. The first part, comprising 68 pages, is an epitome of the principal facts and hints which have appeared in the medical journals during the year (July, 1882, to July, 1883), "such as the medical practitioner might be supposed to insert in his own note-book." Diseases and drugs are arranged alphabetically in paragraphs, and the journals from which the statements are condensed are indicated. The extracts have been carefully made, but from their brevity they do not pretend to compete with those in "Braithwaite's Retrospect." We anticipate that in future annuals this portion of the book will be further expanded. We, however, remark that under the heading of "Tuberculosis," Ehrlich's, Heneage Gibbes's, and Baumgarten's methods of staining bacilli are given. We fear that the "busy practitioner," whose wants are now being so carefully studied and so largely supplied, would hardly have transferred these to his note-book. The surgical inventions of the year—several of them illustrated—occupy the next ten pages, and then we come to what we believe is the least useful part of the entire book—"The Health Resorts of Great Britain, France, and Germany." We can hardly think that anyone requiring information on such matters would seek it in the meagre ten-line summaries that are vouchsafed to each of the two or three hundred winter stations. Climatology cannot be compressed into a waistcoat-pocket knowledge. The sanitary memoranda, considering the space allotted, have been remarkably well compiled; it was hardly necessary, however, to place asphyxia amongst the "pathologic" indications of defective ventilation. The section on medical education is very complete. We entirely agree with the writer in his views respecting apprenticeship to a practitioner in the beginning of a pupil's career. He regards this method as a "nursery for unqualified

practitioners, or at best it sends youths to the medical schools with their heads full of nostrums and their bosoms full of pride; . . . he is behind his year in knowledge, but he transcends his teachers in the treatment of disease. If fortunate, he learns humility, and then settles down to learn the bones." The writer is not quite accurate in his statistics of rejections at the Royal University Examinations; and if a disappointment is felt among British students on account of the high standard of answering it requires, we can only hope that the minimum of the other licensing bodies, to which he complains they are driven, will be raised to a healthy rivalry.

A medical gazetteer records the population, number of medical men and hospitals in each town of the United Kingdom. Then follow lists of books published, new pharmaceutical preparations, private asylums, nursing institutions, &c., completing a compendium for which we predict a very wide popularity.

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*The Diseases of Children: a Handbook for Practitioners and Students.* By ARMAND SEMPLE, B.A., M.B., Cantab.; M.R.C.P., Lond.; Physician, North Eastern Hospital for Children; Physician to the Royal Society of Musicians; author of "The Voice Musically and Medically Considered," "Aids to Medicine," &c. London: Baillière, Tindall, & Cox. 1884. Pp 352.

OUR medical recollections go back—*Eheu! fugaces labuntur anni!*—for more than thirty years, but we do not remember a time when "it would have been asserted that the ailments of children were nothing distinct from those of adults, nor demanded from the practitioner any particular knowledge to insure successful treatment." Here in Dublin, certainly, such works on the Diseases of Children as Maunsell and Evanson's and Churchill's showed that we were more than willing long ago "to assign to the diseases of children that position of primary importance which every skilled physician familiar with their varied phases unquestionably accords them." The production of a special work on the subject needs no elaborate defence from Dr. Semple, but we must protest against his claim of originality in his handling. To those familiar with the works named above, and with others that might be named, it seems almost ludicrous to assert that their authors, "almost without exception, tacitly assume with the poet, 'that all men are but children still,' and carrying the principle enunciated in the quotation

to somewhat extreme limits, they lead their readers to the conclusion that diseases incident to infancy are to be regularly exploited in the aged puerility of the period extending between the twelfth and twentieth years of life." The author claims originality only on the ground of having avoided the "common error" described, or intended to be described, in this passage, which may be taken as a sample of the style in which his book is written. As to its contents we cannot say, after careful examination, that they justify the author's claim to superiority over his predecessors, or establish the necessity for the production of a new work on children's diseases. The compilation, however, is a useful one, and contains, in convenient and well-arranged form, a great deal of information upon its important subject-matter.

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*Transactions of the Pathological Society of London.* Vol. XXXIV.  
1883. Pp. 416.

THIS volume fully equals its predecessors in variety and importance of contents. The Comparative Pathology Committee has commenced to work, and from its exertions much interesting information on the pathological changes in the lower animals may be expected. The discussion upon the morbid anatomy of diabetes occupies 69 pages, and it was the means of eliciting much information bearing upon the disease. The Committee appointed to investigate the changes in the nervous centres in diabetes, reported that they have failed to find, in the specimens submitted, any changes which can be regarded as exclusively or even constantly associated with diabetes.

The volume is illustrated with twenty-five plates (several of them chromos) and sixteen woodcuts.

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*Legal Medicine.* Part II. By CHARLES MEYMOTT TIDY, M.B.,  
F.C.S. London: Smith, Elder & Co. 1883. Pp. 508.

THIS large volume, in royal octavo, is the second instalment of the work which we have noticed in a former volume of this Journal. The book in hand deals with the following subjects:—Legitimacy and Paternity, Pregnancy, Abortion, Rape, Indecent Exposure, Sodomy, Bestiality, Live Birth, Infanticide, Asphyxia, Drowning, Hanging, Strangulation, Suffocation. Although it is not promised, we presume a future volume or volumes will appear, as the subjects

of Poisons and Mental Diseases are not dealt with in either of the preceding ones. Should such be issued in the style of those already before the public, we shall have a standard work on Legal Medicine of rare completeness and marvellous fulness.

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*Questões Hygienicas.* Pelo DR. JOÃS PIRES FARINHA, Medico das Casas de Detença e de Correção do Rio de Janeiro, &c., &c. Rio de Janeiro. 1883. Pp. 54.

*El Ensayo Medico.* Núm 7. Caracas. 1883. Pp. 10.

WE appreciate the friendliness which has sent us these papers all the way from South America. The former is a reprint of some essays on sanitary subjects published in the *Uniao Medica* and the *Jornal do Commercio* of Rio by Dr. Farinha. In the first of these the old question—old enough to be obsolete—whether the emanations from putrefying animal matter are injurious to health or innocuous (or even beneficial!) is argued, and left as it was before. The principal paper is a description and discussion of the sewerage of Rio, which appears to have been in a very rudimentary condition until taken in hand by a “City Improvements” Company, organised in 1857 by Colonel John Frederic Russell, “to construct a mixed system of sewers—that is, for rain water, fæcal matters, and house slops, like those in use in Leicester and other towns of England.” Dr. Farinha’s account of the Company’s work is very full, but possesses, of course, little more than local interest. Strange to say, there is considerable difference of opinion as to the effect of this elaborate system of drainage upon the public health—some asserting “that the endemic infectious fevers, prevailing from December to April, as yellow fever, bilious remittents of typhoid type, &c., are engendered and spread almost exclusively by the *City Improvements* ;” others attributing the increasing death-rate of the city to general causes. The doctors differ, as they sometimes do. Of the progressive increase of deaths from a mean of 8,696 in the quadrennium 1853–56 to 11,541 for 1877–79 there appears to be no question. The population is not stated in the paper, but it can scarcely have increased by more than 32 per cent. in 26 years. Taking it at 420,000, as we find it estimated in 1883, the latter death-rate is 27·5 per mille. The author considers the connexion between the operations of the City Improvements Company and the aggravated mortality to be one of coincidence, not of cause and



effect. After carefully reading his statement of the case we do not feel as confident as he does of the innocuousness of the new sewerage.

We wish health and long life to our infant contemporary, *The Medical Assay*. If the account we find in this number of the charitable hospitals of Caracas is a faithful one we must infer that the climate or something else is not favourable to medical progress. In an article on "Our Hospitals" we read a dismal account of these institutions. In them, we are told, exists "a kind of conspiracy against every principle of hygiene, and a complete absence of every essential." The air is foul, the diet is bad and insufficient, the clothing, bedding, and persons of the patients are filthy, the attendants are few and underpaid, the "arsenal quirúrgico" is ridiculous, consisting of "some worn-out instruments, better suited to the shelves of a museum. A 'costotome,' which rather saws than cuts, a scalpel whose back has been converted into an edge, forceps too loose to hold anything, saws with capricious teeth, &c., constitute what is called a 'dissection case.' The amputating case, no less proud, competes for superiority. Of the surgical cases nothing remains but the cover, or, at most, as if it had gone astray, a trocar, which might be useful if it had not lost its point." The supply of medicines appears to be equally defective, pure quinine being unobtainable—and this in South America! We cannot sympathise with the author in his regret that it is impossible to use "patent medicines, some of which are of acknowledged efficacy." The whole picture is a gloomy one, and we trust that this publication of the facts will lead to the expenditure of a little more money upon the charitable hospitals of Caracas.

*Good Remedies out of Fashion.* By CHARLES J. HARE, M.D., Cantab.; F.R.C.P.; President of the Metropolitan Counties Branch of the British Medical Association; late Professor of Clinical Medicine in University College, London; and Physician to University College Hospital, &c. London: J. & A. Churchill. 1883. Pp. 50.

MOST of our readers must be familiar with this Address, which, having been delivered to the Metropolitan Counties Branch of the British Medical Association in July last, was printed soon afterwards in the Association Journal. Is it the approach or arrival of

old-fogeydom which made us read it then, and makes us re-peruse it now with immense pleasure? Dr. Hare's audacity is worthy of Danton. He boldly professes his disbelief in "decidedly gouty" bronchitis or some such other affection in patients in whom gout is neither hereditary nor personal. He suspects that "arterial tension" is being ridden a little too hard. Most audaciously of all he "fears" "that our newer acquaintances, the Bacilli" (with a B), "will, according to present appearances, be soon enthusiastically credited with being *the* one thing responsible for and explaining an infinity of most diverse conditions, and most unlike diseases, whether their relation to these be actually proven or not." These views of doubtful orthodoxy, however, refer to things *in* fashion, while the main purpose of the address is to call attention to things *out* of fashion in the treatment of disease—emetics, purgatives (especially Epsom salt and cream of tartar), opium, bleedings (by leech, lancet, and cupping-glass), and dry-cupping. We wish Dr. Hare had written more. We can recommend what he has given us, "deluged as we now are with so-called new remedies, such as hydrastin, iridin, sanguinarin, baptistin, glonoin, gelsemin, euonymin, mucuna, muscarin, the quack 'chlorodyne' (of which I never in my life prescribed a single dose), eucalyptin, thymol, ingluvin, asclepedin, and a host of others, the advertisements of which fill the pages of our journals."

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ELEPHANTIASIS ARABUM CURED BY LIGATURE OF THE FEMORAL  
ARTERY.

IN view of the fact that the successful operations, both in this country and in Europe, for the cure of this most obstinate disease of the lower extremity, by ligation of the femoral artery, are so few as to be easily counted upon one's fingers' ends, and because of the apparent propriety of resorting to this last method before amputation becomes an imperious necessity to save the life of the patient, the successful case operated upon by Dr. G. C. E. Weber, and reported in the January number of *The American Journal of the Medical Sciences*, has considerable interest. Thirty days after the operation the limb had diminished in circumference nearly one-half, and at the end of six months the patient reported that he suffered no inconvenience whatever from his limb, save that upon unusual exertion a slight œdematous swelling would supervene.

## PART III.

### HALF-YEARLY REPORTS.

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#### REPORT ON NERVOUS AND MENTAL DISEASE.\*

By RINGROSE ATKINS, M.A., M.D.; Medical Superintendent,  
District Lunatic Asylum, Waterford.

##### I. INSANITY IN GENERAL.

*Relation of Diseases of Women to Insanity.*—Dr. Ripping, in the *Zeitschrift für Psychiatrie*, Bd. XXXIX., Heft 1, considers the important clinical question of the relation of the diseases of the sexual organs in women to mental alienation. While he admits that changes in the uterus and its appendages, whether physiological, or pathological, have an effect upon the mental susceptibilities of women, he is doubtful whether this effect is profound enough to become a potent cause of insanity. He is rather disposed to place such affections in the second or third line of causes as *adjuvantia*. The uterine diseases and the mental disturbance are sometimes the result of a common cause. "I have never observed," writes Dr. Ripping, "a single case in which the insanity was a pure reflex neurosis of disease of the genital organs." If in some patients this seemed to be probable, it was found on more careful examination that there were other circumstances which gave an easy and unforced explanation of the mental derangement. It is only after uterine disorders which, from their severity, implicate the whole organism or lower the strength, as in continual bleedings, that insanity can be held to supervene as a result. Dr. Ripping finds that affections of the sexual organs after the puerperal condition is passed do not hinder recovery from insanity. He protests against the remark of Skene that the insane are less affected than the sane by vaginal examinations. On the contrary, he says that in recent cases of insanity such examinations sometimes cause

\* The author of this Report, desirous that no contribution to the subject of Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal, they will be forwarded.

injury to the course of the mental symptoms which are well-nigh irreparable. He has a dislike to examinations under anæsthetics, and observes that the effects of chloroform on the nervous system are somewhat suspicious in patients afflicted with recent insanity. There is a great variance of opinion about the frequency of diseases of the genital organs in insane women. Verga places it as low as 6 per cent., L. Meyer 9 per cent., Landouzy makes it 50, and Hergt as high as 66 per cent. Dr. Danillo, of St. Petersburg (*Centralblatt f. Nervenheilkunde*, 1882), has recently examined the question, and of 200 insane patients he found diseases of the genital organs in 80 per cent.; and of 140 women who still menstruated he found 120=84 per cent. who had some affection of the uterus or its appendages. In 60 who did not menstruate he found only 18-28 per cent. so affected. Dr. Danillo therefore comes to conclusions quite opposed to those of Dr. Ripping.—*Journal of Mental Science*.

*Mental Disease in Children*.—Dr. Martin Cohn, in a paper in the *Berlin Archiv f. Kinderheilk*, says that the statistics of Hagen and Koch have shown that mental diseases are more common among children than was formerly supposed. An explanation of this may be found in the fact that only lately the diseases of childhood have been more thoroughly studied, and also that among children lighter psychical disturbances, which heretofore have not attracted the attention of statisticians are quite frequent. The disposition to mental disease, it is true, is small among children, yet at no other time of life is the equilibrium of the mind more easily disturbed by trivial causes. In the ætiology we must distinguish between the predisposing and the accidental causes. Among the former the chief cause is hereditary tendency; while among the latter we may name fright, fear, education, somatic causes—such as deformity of the brain case, injuries to the head, acute febrile diseases, chronic constitutional diseases, such as tuberculosis, syphilis, &c., reflex irritation, and many others.

*Insanity in a Child*.—Berner reports the case of a child six years and ten months old, who was attacked with melancholia. The patient was desirous of solitude, very restless and unquiet in slumber, and had hallucinations of sight and hearing. These were at times paroxysms of markedly painful depression. Hereditary history was uncertain, and the patient recovered in a month.

*Moral Insanity in Children*.—Dr. J. Manley (*Journal of Mental Science*), coinciding in the opinion previously expressed by Dr.

Savage that many so-called sound children are nothing more or less than children who are morally of unsound mind, reports the cases of two children, four and six and a-half years old, intellectually bright, yet given to wild, malicious mischief, despite good home surroundings and careful bringing up.

[Quite recently I was consulted regarding a case of acquired mental derangement, occurring in a boy nearly ten years of age, which was believed to be due to fright consequent on accidental immersion. For the past eight months the boy has been progressively losing mental power, and lately he has become excitable, extremely passionate, and filthy in his habits—using when aroused foul language which he heard as a child; he is quite incoherent, and the volitional and emotional faculties are deeply affected. The prognosis in such a case is, I believe, very unfavourable.—*Rep.*]

*Insane from Fear.*—There died a few months ago at the Charenton Asylum, near Paris, a man who had a very curious history. Thirty years ago this person was condemned to death at the Seine Assizes for the murder of an old gentleman. The court was crowded with spectators. Standing immediately behind the criminal, who was flanked by gendarmes, was an employé of the *Presse* newspaper, who had contrived to wriggle himself into that position without attracting notice. Scarcely had sentence been pronounced when this *Presse* employé, moved by an uncontrollable impulse, passed the side of his hand over the prisoner's neck in imitation of the keen blade of the guillotine, at the same time emitting a whirring sound. The criminal instantly fell forward with a shriek of terror, and the indignant bystanders rushed upon the *Presse* employé and roundly abused him. He was subsequently condemned to two years imprisonment. His victim remained insane till death. He was pardoned by the Emperor and confined first at Bicêtre and afterwards at Charenton. The unfortunate man had the delusion that he had been beheaded in the Palais de Justice, and when relating the story was in the habit of imitating the sound that had haunted him for thirty years.

*Mental Symptoms and Ear Disease.*—Furstner (*Berliner klinische Wochenschrift*, No. 18, 1883) briefly describes twenty-six cases of insanity in which ear diseases first appeared. Two cases closely allied have been already described by him in the same journal for 1881. Two hereditary defective females with normal hearing had, after painful entonic sounds, a sharp attack of melancholia. An aural examination gave negative results. These cases were

evidently due to chlorosis causing venous hums and anæmic sounds. The patients recovered on the removal of the sounds by constitutional treatment. Of the twenty-six cases nineteen are cases in which ear disease furnished supports for insane delusions. In another class of cases acute periods of excitement were in relation to suppuration in the middle ear. In one case a profuse discharge of pus brought a case of melancholia to an end. In some cases the slight suspiciousness not uncommon in normal partially deaf people was exaggerated into a depressed condition tending to suicide.—*Alienist and Neurologist*.

*The Pulse among the Insane.*—Dr. F. M. Turnbull (*Boston Med. and Surg. Jour.*, May 18, 1883), after extended sphygmographic researches, comes to the following conclusions on this subject:—(1) That no typical tracing has yet been found in general paralysis, and that the tracings called “maniacal” are inconstant in acute mania; (2) that the tracing of pyrexia so called may be produced by other causes than fever; (3) that oscillation is at least a very inconstant element in the tracings of cerebral or cerebro-spinal disorder, and that when present it is probably due to muscular or tendinous tremor when no cause can be found other than nervous or mental; (4) that the sphygmograph is of little or no use as an aid to the differential diagnosis between the types of insanity, and that its indications may be the same in a temporary functional disturbance of the circulation as they are in serious organic disease of the brain and nervous system. Claus’ results (*Allgemeine Zeitschrift für Psychiat*, Bd. XXXIX., Heft 9), corroborate these conclusions in a general way.—*Alienist and Neurologist*.

*Gout and Insanity.*—At the January (1883) meeting of the Chicago Medical Society Dr. Kiernan reported a case which tended to confirm the opinions expressed by Berthier, Dickson, Bucknill, Tuke, and Blandford. The patient was of Irish descent, was markedly good humoured as a rule, and had at irregular intervals attacks of gout. The occasion on which he was first seen by Dr. Kiernan he was wildly excited and was dashing around the room smashing articles of furniture and seeking to escape from enemies. He had been in his usual health up to within three weeks previously, when he was attacked with gout. While suffering from this, and with his foot encased in a shoe as far as the toes were concerned, he incautiously went out in a rain storm. On his return home the swelling of the joint had disappeared, but he was irritable, peevish, and loudly complained of the noisy streets

and his unquiet children, one of whom he beat severely, contrary to his usual custom. From the description given by his wife he soon developed casual hallucinations, and then passed into the condition in which Dr. Kiernan saw him. Under the application of warm fomentations to the lower extremities and the internal use of colchicum, conium, and iodide of potassium the excitement disappeared and the patient regained his usual good humour.

*Temperature in Insanity.*—Extended contributions to this subject have recently been made by Bechterew (*Archiv für Psychiatrie*, Bd. XIII.) and Hebold. Bechterew has taken the temperature of the rectum with all the precautions suggested by Liebermeister. He finds that in the first stage of melancholia the temperature usually remains normal, or may even rise above it. It has been observed as high as 104° F. By melancholia Bechterew evidently means all cases with delusions of persecution and depression. In melancholia with marked depression and with stupor, the temperature may sink far below the normal. In the convalescent period the temperature is usually normal. Sometimes the temperature is extremely variable at the outset of this period, and this usually denotes a sudden improvement in the patient's condition. In the excited or stuporose period an inverted typhoid fever curve is often noticeable. The fall of temperature is referable to the altered metamorphosis in the tissues, to circulatory and hæmic changes. In the first stage of mania the temperature is lowest. In the period of excitation it is normal or above normal, and there are frequently marked fluctuations. Low temperature is often noticeable on the disappearance of the excited period. An inverted typhoid fever curve is often noticeable here. The peripheral temperature varies in different places. Dementia curves are most irregular, and sub-normal temperatures very frequent. Hebold's results, which deal specially with low temperature, tend in a general way to confirm these results.—*Alienist and Neurologist.*

## II.—ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

*The Minute Anatomy of the Central Organs of the Nervous System.*—Professor Golgi, of Pavia, has contributed two elaborate articles on this subject to the *Rivista Sperimentale*, illustrated with a series of beautifully executed plates, starting with the statement that in the anatomical explorations of such men as Gerlach, Schultz, Boll, and Meynert, *schemes* are substituted for vigorous descriptions of the forms and relations which they are brought forward to verify.

These schemes, although perchance wearing the semblance of reality, since they, under a certain stretch of control, harmonise with physiological doctrines, are nevertheless but so many anatomical hypotheses. He endeavours to extend existing knowledge by recording and delineating accurately carefully-observed appearances from specimens prepared in various ways, selecting particularly for investigation the following problems:—1. The connexion between the nerve-fibres and the ganglionic cells; 2. The relation between the different forms of ganglionic cells and the functions of the parts where they are found; 3. The arrangement and relations of the elements in the several parts of the nerve-centres; 4. The course of the nerve-fibres and their relation to the groups of ganglionic cells. Speaking of the general characteristics and structure of the ganglion cells, he considers that while they may be distinguished as bipolar, tripolar, quadripolar, multipolar, yet that one of the prolongations only—the cylinder-axis prolongation, or nervoso-fibrous prolongation (Deiters)—is intimately concerned with the nervous functions of the cell; the other prolongations, termed by Deiters the protoplasmic prolongations, probably representing the paths for the nutrition of the cells. As regards the supposed anastomosis between nerve-cells, he says:—"I have placed many hundreds of preparations under minute and patient examination, but not in one of them has it been granted me to establish a case, however unique, of anastomosis between either the large or the very small prolongations. It is true that there did not fail cases in which, from the fact of the prolongations going against each other, the impression was given of reciprocal fusion, chiefly when the examination was made with low or medium enlargements; but an accurate examination, made with strong objectives, readily showed that we had been dealing with an appearance resulting from reciprocal contact." The nerve prolongation from the cell sends off at tolerably regular intervals lateral filaments, which in turn divide and subdivide into an extremely complicated network all through the gray matter. Similar filaments seem to be given off from the ordinary nerve-fibres. There seem, therefore, to be two different ways in which the fibres and cells are connected—either directly by a prolongation from a nerve-cell becoming the cylinder-axis of a fibre, or indirectly by the filaments given off from the prolongations and fibres which are closely interlaced in the gray matter. Taking the case of the spinal cord, the direct connexion seems to prevail especially in the anterior cornua, the



indirect connexion in the posterior cornua; the former being, therefore, prevalent in the motor centres, the latter in the sensory. For the most part each nerve-fibre is connected with separate groups of ganglionic cells, and each ganglion cell in turn with nerve-fibres going in different directions. Golgi's examination of the cortical matter leads him to differ from Meynert, and to divide it into the following layers, which gradually shade into each other:—1. An outer layer, composed principally of rather small pyramidal cells; 2. A middle layer of larger cells, also pyramidal; 3. The inner layer, the cells in which are mostly fusiform, but also polygonal, globose, or irregular in the anterior convolutions, but containing many small cells in the deepest part of this layer in the occipital convolutions. This is the only histological distinction noted by the author in different parts of the convolutions.

*Structure of the Spinal Cord.*—Dr. Laura (*Archives Italiennes de Biologie*, 1882) observes that the acquisition of the medullary sheath is the distinctive character of all processes from nerve-cells that become nerves. He has endeavoured to trace these processes or nerve-fibres from their cells to their ultimate distribution, more particularly with reference to the cells of the anterior cornua, of the Stilling's nucleus, of Clarke's posterior column, and of the posterior cornua. He concludes that—1. The cells of the anterior cornua send their nerve processes in the greater number of instances into the anterior nerve-roots; 2. Fibres from different points of both of the anterior and posterior cornua contribute to the formation of the anterior commissure; 3. The cells of the nucleus of Stilling supply nervous prolongations which pass at first inwards, then, after a long course in the same direction, fold backwards, and go on to form a large bundle, passing into the lateral column; 4. The lateral column receives fibres from different points of both anterior and posterior cornua; 5. The cells of the posterior cornua furnish processes, which pass in various directions, (a) into the anterior commissure, (b) directly to the anterior roots, (c) into the lateral columns, (d) into the posterior columns, (e) across the middle line behind the central canal into the opposite cornua; 6. Cells are found in the cord which send nerve processes in opposite directions, and act immediately in the change of direction of the fibres.—*Alienist and Neurologist.*

*The Posterior Lobes of the Brain and the Seat of Intellectuality*—Dr. Crochley Clapham (*Journ. Ment. Sci.*) claims that there is no proof that the frontal lobes are the seat of intelligence, and gives

the following reasons for rather crediting the occipital lobes with that function:—1. The occipital lobes occur only in the primates, being absent in the lowest monkeys; the frontal lobes are present in all mammalia. 2. The occipital lobes are the latest developed, whereas convolutions first make their appearance in the human brain in the frontal lobes. 3. The occipital lobes are not occupied, as are the frontal lobes, by extensive motor areas; indeed, they have no motor cells whatever in their cortical substance. 4. The occipital lobes are small and ill-developed in idiots (a straight back to the head being a common feature in idiocy), while the frontal lobes are unusually large, relatively speaking. 5. Wasting of the occipital lobes is always accompanied by dementia; not so wasting of the frontal lobes. Campaigne (*Traité de la Manie Raisonnante*) and others have shown that in primary monomania the occipital region, not the frontal, is deficient.

*Munk's "Visual Centre."*—Dr. Munk (*Centralblatt für Nervenheilkunde*) has renewed his experiments on a number of monkeys. He has extirpated the gyrus angularis in six of these animals without producing hemiopia or amblyopia. Where only a passing hemiopia resulted from lesion of the occipital lobe, he thinks that too limited a portion of the cortical matter must have been removed. At first there would result a more or less observable amount of blindness, owing not only to the loss of the portion removed, but also to the injury of the surrounding parts, and the residual deterioration of vision might easily escape detection. He thinks that where hemiopia has resulted from removal of the gyrus angularis the inflammation must have extended backwards to the occipital lobes or to the fibres which connect the occipital lobe with the optic ganglia. He says that there is a band of fibres running from the occipital lobe forwards and outwards under the superior course of the gyrus angularis which, if injured, causes hemiopia on both sides.

Munk holds that the lateral half of the visual area is in connexion with the retina of the same side, and the mesial or inner half with the retina of the opposite side, and that the optical meridian of the decussating and non-decussating portions of the retina runs through the middle of the macula lutea. On the right of this line the retina is in connexion with the right hemisphere; on the left side of the line, with the visual area of the left hemisphere. The side of the retina which goes to the hemisphere on the same side is much larger in the monkey than in the dog. After many failures he succeeded in removing the outer half of the visual area in the left

occipital lobe, and the inner half on the right side, and likewise managed to keep the monkey alive long enough to note the result. The animal was almost blind with the left eye—seeing only a very little with the outer side of the left retina—but the sight of the right eye was unaffected.

In four experiments he removed the lateral half of the convexity of the occipital lobe, taking the sagittal line as the boundary, and this in every case produced hemiopia of the eye on the same side without any injury to the opposite eye.

He concludes from some experiments, that in the monkey the portion of the visual centre in functional relation to the macula lutea extends widely over the convexity of the occipital lobe, and that the portion corresponding to the fovea centralis lies in the posterior half of the convexity.

*The Auditory Centre.*—Dr. Munk, in a communication which he made to the Berlin Academy of Science, places the auditory centre in that portion of the temporal lobe below the visual centre and above the gyrus hippocampi, always excepting a piece of the fourth outer convolution near the fissure of Sylvius. After destruction of this area on both sides there is deafness, and in a few weeks after the dog ceases to bark or whine, just as if the apparatus of both ears was destroyed. If the auditory centre is extirpated and the internal ear on the same side is also destroyed the animal becomes deaf and soon dumb. This shows that the peripheral apparatus of each acoustic nerve is connected with the brain on the opposite side, so that each auditory centre is exclusively connected with the opposite ear. Munk has also sought to find out if the different regions of the auditory centre have the same physiological function. He has arrived at the conclusion that the anterior part of the auditory area is used for the perception of the high notes, the posterior part for the deeper tones, and that the usual hearing of the dog is connected with the under part of the auditory centre.—*Jour. Ment. Sci.*

*Experimental Production of Epilepsy.*—Pitres and Frank relate the following experiment:—One of the cerebral hemispheres in a dog is laid bare, and if the surface is irritated there are always produced epileptiform convulsions. Now if before the irritation the cerebral surface is refrigerated by a spray of ether, then irritation of the cerebral surface will cause only movements but no convulsions. If contact of the ether with the cerebral surface was prevented by a towel, still the cold was sufficient to prevent convulsions.—*Gaz. des. Hôpitaux.*

*Action of the Vagus.*—Dr. Rosenthal (*Centralbltt. f. d. med. Wiss.*, 1882) concludes that—(1.) There are in the vagus certain fibres, probably pulmonary, the stimulation of which acts on the respiratory centre to cause more frequent and weaker respirations, or, with a stronger stimulation, complete cessation of respiration in moderate inspiration. These he terms “regulating fibres.” (2.) The superior laryngeal nerve contains fibres the stimulation of which causes less frequent and deeper respirations, or, with a stronger stimulation, entirely checks them. These he calls “inhibitory fibres” of the respiratory centre, analogous to the inhibitory nerves of the heart. (3.) The inferior laryngeal nerve contains fibres the stimulation of which also arrests respiration in the stage of expiration, but which cannot be the same as those last mentioned; their action ceases when the stimulation is very strong, when the animal is narcotised, and when the cerebrum is removed. They probably act like other sensory nerves, only indirectly on the respiratory centres. (4.) Chloral hydrate in large doses completely destroys the action of the regulatory fibres, but leaves the inhibitory fibres unaffected.—*Alienist and Neurologist.*

*On the Reflexes in Childhood.*—Eulenberg (*Neurol. Centralbltt.*) has been studying the reflexes among 124 children. He has found the knee-jerk wanting in seven cases on both sides, and in three cases on one side only. Eulenberg claims that the frequent absence of tendinous, opposed to the constancy of mucous and cutaneous, reflexes is not exactly an argument in favour of the reflex nature of the former.—*Alienist and Neurologist.*

In the *American Journal of Neurology and Psychiatry*, Aug., 1883, Dr. Spitzka relates the case of a physician, thirty-two years of age, who, although between his eighteenth and twenty-second years a heavy drinker, and affected at the time thereby, was now in excellent mental and physical health, in whom the knee-jerk is absolutely absent on the right side and imperceptible on the left, though here a thrill is felt which is lacking on the right side when the patellar tendon is struck. The hamstring reflex is fairly present on the right and absent on the left side. The doctor was conscious of the normal presence of the reflex up to his seventeenth year, and can trace its absence back seven years; hence it consequently disappeared between his eighteenth and his twenty-fifth year. Dr. Spitzka is aware that Möbius has made observations tending to demonstrate the disappearance of the knee phenomenon in old persons; but he believes this to be the first case in which its disappearance has been

determined within the lifetime of one and the same individual without an adequate pathological basis, such as spinal disease or syphilis.

### III.—NEURO-PATHOLOGY AND PATHOLOGICAL ANATOMY.

*The Pathology of Certain Cases of Melancholia Attonita or Acute Dementia.*—In the *Journal of Mental Science*, October, 1883, is published the essay on this subject from the pen of Dr. J. Wigglesworth, which gained the prize of the Medico-Psychological Association. The paper is based on the study of two fatal cases which presented many points of similarity in their clinical histories, and in which very similar morbid changes were demonstrated on microscopical examination. The first case was that of a woman aged forty-eight years, who, after an intemperate and irregular life, became affected with delusions of suspicion which had lasted eight months before admission to the asylum. She was then feeble, unable or unwilling to walk, with a stolid expression, and was perfectly silent. During her residence in the asylum the mental condition varied slightly; at times she was brighter and more inclined to talk, and again became dull and self-absorbed. She gradually became weaker, restless occasionally, with muscular jerkings and twitchings and rigidity of the arms, and died on the fifty-second day after her admission. *Post-mortem* examination revealed no lesion sufficient to account for death, the only organ diseased being the left suprarenal capsule, and there were no clinical signs of affections of these organs. Microscopical examination of the cortex in various regions of the brain showed swelling of the nerve-cells, in some cases producing almost complete sphericity of outline and eccentricity of the nuclei. These changes were best marked in the cells of the fourth layer, but were well marked in the third, and distinct in many of the larger cells of the second layer. In some of the cells pigmentation was not noticeable, in others it was a prominent condition, and occasional patches of yellow pigment, not obviously connected with anything, were observed. The neuroglia was everywhere normal. The condition of the arterioles is not stated.

The second case was also a female, aged thirty years, married, but without children. She had been affected with uterine disease, and the condition of her health preyed so on her husband's mind that he attempted suicide. This was a great shock to her, and she almost immediately after showed signs of insanity. On admission her mental condition was characterised by restlessness, accompanied by fear and inability to answer questions. This condition after a

little time subsided, but she continued throughout more or less restless, wakeful at night, and wandering about aimlessly during the day, and could hardly be got to utter a word. There were occasional slight twitchings of upper lips, the arms trembled when moved, and there was also very slight quivering of the muscles of the left side of the arm and hand; the arms were kept rigid when attempts were made to move them. This condition of stupor, inability or unwillingness to speak, together with the muscular tremors or rigidity, gradually deepened, and she sank and died on the nineteenth day of her residence in the asylum, without any very obvious cause. *Post-mortem* examination disclosed no gross disease of any organ. The microscope showed, in fresh preparations cut with the freezing microtome, as in the former case, slight swelling of the nerve-cells, with eccentricity of the nuclei and partial pigmentation, the dislocation of the nuclei being the most marked change. The neuroglia was unaltered. The author calls attention to the points of resemblance between the first case and general paralysis, but shows how it could not be confounded with the latter condition; the second case was set down as one of acute dementia. In reference to the structural appearances observed, he says:—"As regards the inflation, when it has progressed to the extent here recorded it cannot but be regarded as distinctly pathological, though we must not shut our eyes to the probability that some degree of distension of nerve-cells may occur under conditions physiological, or but slightly removed from these. The very marked displacement of the nucleus, moreover—pushed in some cases up to the apex, or to one corner of the cell—appears indicative of a decidedly abnormal process." From the consideration of the cases he draws the following conclusions:—

1. That from the ill-defined assemblage of cases commonly called "Melancholia," "Melancholia Attonita," and "Acute Dementia," a group has to be distinguished which constitutes a definite clinical and pathological entity.

2. That this group is clinically characterised by the association of more or less of self-absorption passing into vacuity, with a definite affection of the muscular system—to wit, muscular tremors, and muscular rigidity.

3. That the pathological basis of the same is a primary inflammatory affection of nerve-cells, best marked in the so-called "motor cells," and possibly originating in them, but showing a decided tendency to spread beyond their area.

*On the Pathology of Mania.*—The same author read before the Section of Psychology of the British Medical Association, at the meeting in Liverpool in August last, a paper on the Pathology of Mania, which is published in the *Journal of Mental Science*, January, 1884. Following Hughlings Jackson, Dr. Wigglesworth considers that mania is a primary disease of the highest co-ordinating plexuses of the cerebral cortex, and that from the temporary or permanent abolition of the function of those centres, the lower centres—comprising the greater portion of the cerebral cortex—are thrown into activity, and that the tendency to over-action in these lower centres causes, by a reflex stimulus through the vasomotor system, an extra supply of blood to be sent to the parts in question, just as we see when a gland is called into activity, which increased supply of blood will last just as long as the demand for it continues. He points out the applicability of this theory to the mildest as well as to the severest forms of the disease, and further elucidates the hypotheses by a consideration of the analagous states of dreaming and delirium, which may be also illustrated by the progressive effects of anæsthetics in the production of insensibility. He concludes by briefly considering the question as to whether or no there is a material lesion underlying the phenomena which we know as mania—a lesion of nerve-cells that is capable of demonstration by the microscope. Some varieties of mania, indeed, are of such a transitory nature as to forbid us to suppose that there can be more than a functional derangement at work; many cases, however, appear to run such a definite clinical course, are moreover of such lasting duration, and end in such utter mental wreck, as to compel one to think that there is a definite material affection of nerve-cells at the bottom of the disease, though as yet this has not been demonstrated.

*Cerebral Thermometry in Brain Disease.*—Dr. J. T. Eskridge concludes, as the result of careful thermometric studies in cases of tubercular cerebro-spinal meningitis, that—1. The right or left side of the head may in turn be the warmest in health. 2. When surface thermometers are used to register the cerebral temperature in disease, the normal averages should be taken to be  $1^{\circ}$  to  $1.5^{\circ}$  higher than those ordinarily given. 3. The head temperature in disease of the brain may equal or exceed the heat of the axilla for a length of time. 4. In cerebral lesions the temperature of the head is not marked by the sudden variations which are manifested by the axillary temperature in these cases. 5. Variations of head

temperature in diseases of the brain take place comparatively slowly; the tendency of the heat of the head to remain permanently above the normal, while that of the axilla is normal or several degrees below, is the strongest evidence of organic disease. 6. The thermometer and the microscope in the case reported agreed in locating the greatest inflammatory trouble in the upper cervical portion of the cord. 7. Brain lesions attended by congestion or inflammation have a higher local temperature than suppuration going on within the cranial cavity.—*Am. Jour. of Insanity.*

*Cerebral Vacuolation.*—In a paper by Dr. Hale White and Dr. Savage, lately read before the Pathological Society of London, it was shown that there were nine causes for holes in the brain:—

1. Small processes of sclerosed meninges in cases of general paralysis, dipped into and excavated minute portions of cerebral tissue.
2. In the same disease the sclerosed neuroglia, by its contraction, might give rise to small cavities.
3. There might be multiple hydatids in the brain. These three conditions were very rare, the authors having no knowledge of the second, while the third was almost confined to animals suffering from staggers. Several references to Continental authors were given, while the relation of the muslin appearance to the second of the above was pointed out.
4. The fourth cause was the dilatation of the cerebral vessels, giving rise to the "*État criblé*." It was particularly emphasised that this was in the majority of cases of no pathological significance.
5. Shrinking of the cerebral convolutions in some cases gave rise to holes in the subjacent cerebral substance. A very good example of this condition was exhibited.
6. Miliary aneurisms, as Charcot had pointed out, might give rise to holes in the brain substance. Some very marked specimens showing this were exhibited.
7. In the condition known in Germany as "*die Porencephalie*" a large gap existed in the brain substance. This might communicate with either the exterior or the interior of the brain, or with both.
8. The Gruyère cheese condition. This, it was pointed out, was quite different from the "*État criblé*," for it was due to a dilatation of the perivascular lymphatic space of His. Of the causes of this dilatation nothing was known; probably they were local, or the dilatation was saccular. The authors showed an example of this condition, in which the whole of the brain, except the lower part of the medulla, was riddled with cavities exactly like those found in cheese, and microscopic specimens exhibited showed that these holes were produced by this perivascular dilatation. The



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shape and direction of the cavities also corresponded with those of the vessels. Very few examples of this condition had been carefully described—in England only one by Lockhart Clarke, who referred it to the same cause. 9. The authors showed specimens from two remarkable cases in which the kidneys, lungs, liver, heart, and brain contained holes. In the kidney these cysts were due to the dilatation of either the tubules or Malpighian capsules; in the liver they were due to the vacuolation of the hepatic cells; in the lungs and brain it was impossible to come to any definite conclusion as to their origin, but in both these viscera the cavities contained a peculiar material staining deeply with logwood. Both the subjects were lunatics. Cases in which there were only a few holes, such as patches of softening hæmorrhage, were not considered to come within the scope of the paper.—*Brit. Med. Journ.*

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*Two Cases of Brain-Tumour.*—Dr. R. B. Mitchell reports two cases (reprint from the *Edin. Med. Jour.*, Nov., 1883) presenting interesting features. Case I.—Male, aged forty, married, had led an intemperate, profligate life; no neurotic history; existence of syphilis doubtful; five years before admission to Morningside Asylum had an attack of left hemiplegia, which was followed by another one more than four years after; subsequently to the second attack his mental powers failed; on admission, he was mentally enfeebled, his facial expression was dazed and vacant, and his memory impaired; sensory and motor functions of left side were affected, left leg trailed, and he often seemed about to fall; articulation indistinct; pupils unequal and contractile. Death occurred after eight months' residence in asylum. Autopsy revealed recent hæmorrhages in left corpus striatum, and the cavity from an old clot in the right corpus striatum. Situated under the posterior part of the floor of the left lateral ventricle was a tumour, three-quarters of an inch in diameter, globular in form, firm and yet resilient in consistence. On sections it had a pale yellow colour, except near the circumference, where a gray, translucent narrow zone existed, and it was well defined, apparently, as to its contour. Microscopical examination showed the tumour to consist of a fibrillated stroma and two kinds of rounded cells. The vessels in its more central parts were in the various stages of obliterative arteritis (illustrations of which are given), and throughout the brain substance the same condition obtained in a lesser degree. Case II.—Male, aged fifty-two, married, had been somewhat intemperate; family history showed presence of insanity, phthisis, and scrofula. Wife had two abortions—one occurring in first pregnancy. Malady commenced with localised pain in right and then in left temple. Then came a convulsive fit nine months after. Subsequently several fits, which did not incapacitate him. Under treatment with iodide of potassium they diminished. A fortnight before admission he became restless and sleepless, and then became threatening in his demeanour. On admission to asylum the predominant features, mentally, were those of enfeeblement and exaltation; memory was impaired and ideas confused; physically—locomotion was slow, gait of right leg somewhat dragging, tongue tremulous, articulation markedly thick and slurred; sensory and reflex functions normal. Improvement took place for a short time, but then severe attacks of “Jacksonian epilepsy” supervened, and death occurred on the twenty-third day after admission. Autopsy showed the dura mater to be adherent to the soft membranes over

the posterior part of the second frontal gyrus of *right* side, and in stripping it off a tumour the size of a hazel-nut, and taking the shape of the gyrus, was found growing from the deep surface of the pia mater. On section it was seen to have precisely the same characters as that described in the previous case. Microscopical examination of the tumour revealed its structure to be similar to that in Case I. The vessels in the neighbourhood were greatly thickened by infiltration of small cells into their coats, and their lumina were correspondingly narrowed; in the corpora striata similar appearances were observed. The nerve-cells were affected with pigmentary degeneration, in the frontal lobes especially. Sections through the thickened meninges showed hyperplasia of the tissue elements, infiltration with new cell growths, and they contained thick-walled vessels. The author considers that although there was no thoroughly unequivocal history of primary syphilis, yet the evidence as to their syphilitic origin is fairly conclusive, and he proceeds to enumerate the points on which this opinion is grounded.

*Tumour of Pons Varolii.*—Dr. F. T. Miles (*Archives of Medicine*) reports the case of a female, aged seventeen, with well-marked cross-paralysis. Complete paralysis of left side of face (involving the articularis and frontalis) and of right arm; incomplete paralysis of right leg; sensation abolished in left half of face, conjunctiva, and nostril; much impaired in the right upper arm; diminished in the right leg; hearing of left ear impaired; paralysis of all the muscles of the left eye; inflammation of left cornea. *Post mortem*.—Externally the pons appeared enlarged and nodulated, the left side especially; the peduncles, especially the left, showing the same appearance. On section it was seen there was a growth occupying the left half of the pons, pushing the raphe to the right.—*Brain*.

*Westphal on a Disease resembling Cerebro-Spinal Sclerosis.*—Westphal (*Archiv für Psych.*, Bd. XIV.) reports with great fulness two cases which presented the symptoms of multiple cerebro-spinal sclerosis. There was paresis of the muscles of the extremities, the trunk and the neck, with rigidity of the muscles, and, as a result of this, delayed and difficult movements; there were tremors when voluntary movements were made; there was "scanning speech" (in one case only—in the other it resembled rather the speech found in bulbar paralysis); the sensory disturbance were slight and transient; the patellar reflex could be evoked, and also the paradoxical contraction; and there were headache, vertigo, apoplectic and hemiplegic attacks and mental symptoms, particularly dementia. The absence

of nystagmus would be regarded by some as an important omission from a case of multiple cerebro-spinal sclerosis; but Westphal's experience is that it is frequently absent. In its place there was an abnormality in the movements of the ocular and facial muscles; the muscles responded slowly to the stimulus of volition, and the movements, when commenced, were slow in execution. This was well seen in the time it took to open and close the eyes. Both cases terminated fatally, after a very chronic course. In one case a careful examination failed to reveal any cerebro-spinal lesion; in the other, the cerebral pia mater was somewhat œdematous, the convolutions small, and the white matter of very firm consistence; but there was not any sclerosis in the ordinary acceptation of the word. Westphal concludes from these two cases that there is a general neurosis (which, for want of a better name, he calls a pseudo-sclerosis) which cannot be distinguished either in its symptoms or in its course from the disease known as multiple cerebro-spinal gray degeneration, or sclerosis. Westphal adds some remarks on the so-called paradoxical contraction of a muscle, brought about by its relaxation, the approximation of its points of origin and insertion. It is best seen when the foot is passively flexed; the foot remains flexed and adducted, owing to the contraction of the tibialis anticus, and it may continue flexed for half an hour. In one of the cases reported in this paper, the paradoxical contraction was observed not only in the tibialis anticus but in the flexors of the knee-joint, in the supinator longus of the forearm, in the muscles of the wrist and finger-joints. This condition is due to a change in the muscular tonus, and bears an analogy to Thomsen's disease (*vide* Report, Sept., 1883), but as yet we know very little about it.—*Brain*.

*Senator on Paralysis of the Fifth Nerve.*—A man, aged thirty-nine (*Archiv für Psych.*, Band XIII.). presented the following symptoms:—Complete anæsthesia of the left half of the face, nose, and mouth; loss of taste in the anterior part of the left side of the tongue; anæsthesia of the left cornea and conjunctiva, there being no blinking on touching the left eye, but if the surface of the right eye was touched, the eyelid of both eyes closed, and the ordinary blinking movements of both eyes occurred as in health; left conjunctiva much injected; cornea softened and opaque; tension of the globe diminished. The only impairment of mobility was paresis of the left masseter. The diagnosis was lesion of the left trigeminus, at some point between its exit from the pons and the Gasserian ganglion. The patient gradually improved under the use of iodide



of potassium, dry-cupping and blistering, but there appeared from time to time slight and transient swelling—first, of the left knee-joint, then of the right knee-joint, and afterwards of both ankle-joints.

Senator regards the above as a case of neuro-paralytic keratitis, and makes some observations on this affection. Clinical facts oppose the theory of external irritation as the cause of the phenomenon, and the present case shows that the eyelids on the affected side still afford a considerable protection to the eye. Clinical facts equally oppose the idea that the arrested flow of the lachrymal secretion, and the consequent drying of the cornea, cause the ophthalmia. The only feasible explanation is, that the appearances are due to some influences acting on the nutrition of the tissues, whether through the vasomotor nerves, or through actual trophic nerve-fibres, is not known. Senator adduces this case in proof of the old view, that the gustatory fibres of the chorda tympani take their origin in the trigeminus. The swelling of the joints he attributes to a vasomotor or trophic disturbance; it certainly was not a rheumatic affection.—*Brain*.

*Progressive Total Hemiatrophy.*—Henschea (*Nord. med. Arkiv*, Bd. XIV., Heft 7, 1883) reports the following unique case:—A man, forty-six years old—one cousin has had melancholia; no other nervous disease in the family—had been of good health up to fourteen years, when he slightly twisted the left foot, and soon after erysipelas attacked the left leg, requiring him to remain in bed. After this he was for some time in and out of bed, owing to the existence of leg ulcers, which were recovered from at intervals. During this time he suffered from prickings and stings in the left half of the body. At the end of six months he noticed atrophic changes in the trunk, extremities, and six months later in the face. At this time he had marked and painful migraine. Since then these modifications are progressing more or less slowly. In his nineteenth year the patient was attacked by melancholia and recovered. Two years and a half ago he had a fresh attack of this psychosis. He married at forty, and is the father of a healthy well-formed child. The patient is well built, but the left side of his face is markedly sunken and atrophied, as also are his left arm and leg. The skull above the eyebrows seems symmetrical, but the left temporal fossa is the deepest. The face is markedly asymmetrical, the left side being sensibly smaller than the right. The nose is, as it were, crowded to the left. The left cheek is

markedly thinned, deprived of its fat and surrounded by radiant striæ. The left eye is thinned but otherwise normal. The eyelids are deprived of fat. The zygomatic bone, the soft parts covering it, and in the temporal fossa and parotido-masseteric region are sensibly atrophied. The skin of the left side of the face is thin. The skin around the left edge of the mouth is slightly pigmented. The left superior maxillary and inferior maxillary segments are markedly atrophied, and the teeth have fallen out. The palatal raphe is drawn to the left. The left soft palate is partially atrophied. The left half of the nose is atrophied. The right face is in marked contrast every way with the left. The neck is symmetrical. The left half of the trunk is slightly less than the right, except in certain places where the atrophy is marked; one of these places is between the fifth and seventh intercostal space; a second stretches from the umbilicus between the tenth and eleventh ribs, about twenty-three centimetres; a third stretches from the crest of the left iliac bone, below the groin, in a line uniting the anterior superior spine of the ilium with the trochanter. Over all these parts the skin is thinned and more or less strongly pigmented. Fat is almost everywhere wanting, so that the muscular fibres are traceable in the skin. The muscles are atrophied, as also is the inter-muscular tissue. The left arm is atrophied as a whole, and shorter than the right. The muscles are markedly atrophied, especially along the head of the triceps, which is almost altogether wanting, and replaced by tendon to the thickness of some millimetres. The skin is contracted, thinned, and pigmented. In consequence of affections of the articulations the arm and fingers cannot be extended. The right leg is strong, muscular, and well provided with fat. The left is thin, weak, and its subcutaneous adipose has almost entirely disappeared. The skin covering the femur is thin, with well-defined pigment. The muscles are atrophied, especially the quadriceps, in which there are two ossifications. The leg cannot be extended because of the alteration of the knee-joint. The left leg is about one-half the thickness of the right. The muscles have almost entirely disappeared, leaving the tibia and fibula covered by parchment-like skin, somewhat pigmented and lacking hair and sweat glands. There is an ankylosis of the tibio-tarsal articulation. The skin of the foot is parchment-like, shiny, and fixed immovably over the bones. The tactile sensibility of the affected parts seems unchanged. In the affected parts fibrillary twitchings are frequent, as also are chillings and drawings. The internal organs present nothing remarkable.

*On the Pathology of Mania.*—The same author read before the Section of Psychology of the British Medical Association, at the meeting in Liverpool in August last, a paper on the Pathology of Mania, which is published in the *Journal of Mental Science*, January, 1884. Following Hughlings Jackson, Dr. Wigglesworth considers that mania is a primary disease of the highest co-ordinating plexuses of the cerebral cortex, and that from the temporary or permanent abolition of the function of those centres, the lower centres—comprising the greater portion of the cerebral cortex—are thrown into activity, and that the tendency to over-action in these lower centres causes, by a reflex stimulus through the vasomotor system, an extra supply of blood to be sent to the parts in question, just as we see when a gland is called into activity, which increased supply of blood will last just as long as the demand for it continues. He points out the applicability of this theory to the mildest as well as to the severest forms of the disease, and further elucidates the hypotheses by a consideration of the analogous states of dreaming and delirium, which may be also illustrated by the progressive effects of anæsthetics in the production of insensibility. He concludes by briefly considering the question as to whether or no there is a material lesion underlying the phenomena which we know as mania—a lesion of nerve-cells that is capable of demonstration by the microscope. Some varieties of mania, indeed, are of such a transitory nature as to forbid us to suppose that there can be more than a functional derangement at work; many cases, however, appear to run such a definite clinical course, are moreover of such lasting duration, and end in such utter mental wreck, as to compel one to think that there is a definite material affection of nerve-cells at the bottom of the disease, though as yet this has not been demonstrated.

*Cerebral Thermometry in Brain Disease.*—Dr. J. T. Eskridge concludes, as the result of careful thermometric studies in cases of tubercular cerebro-spinal meningitis, that—1. The right or left side of the head may in turn be the warmest in health. 2. When surface thermometers are used to register the cerebral temperature in disease, the normal averages should be taken to be  $1^{\circ}$  to  $1.5^{\circ}$  higher than those ordinarily given. 3. The head temperature in disease of the brain may equal or exceed the heat of the axilla for a length of time. 4. In cerebral lesions the temperature of the head is not marked by the sudden variations which are manifested by the axillary temperature in these cases. 5. Variations of head

temperature in diseases of the brain take place comparatively slowly; the tendency of the heat of the head to remain permanently above the normal, while that of the axilla is normal or several degrees below, is the strongest evidence of organic disease. 6. The thermometer and the microscope in the case reported agreed in locating the greatest inflammatory trouble in the upper cervical portion of the cord. 7. Brain lesions attended by congestion or inflammation have a higher local temperature than suppuration going on within the cranial cavity.—*Am. Jour. of Insanity.*

*Cerebral Vacuolation.*—In a paper by Dr. Hale White and Dr. Savage, lately read before the Pathological Society of London, it was shown that there were nine causes for holes in the brain:—

1. Small processes of sclerosed meninges in cases of general paralysis, dipped into and excavated minute portions of cerebral tissue.
2. In the same disease the sclerosed neuroglia, by its contraction, might give rise to small cavities.
3. There might be multiple hydatids in the brain. These three conditions were very rare, the authors having no knowledge of the second, while the third was almost confined to animals suffering from staggers. Several references to Continental authors were given, while the relation of the muslin appearance to the second of the above was pointed out.
4. The fourth cause was the dilatation of the cerebral vessels, giving rise to the "*État criblé*." It was particularly emphasised that this was in the majority of cases of no pathological significance.
5. Shrinking of the cerebral convolutions in some cases gave rise to holes in the subjacent cerebral substance. A very good example of this condition was exhibited.
6. Miliary aneurisms, as Charcot had pointed out, might give rise to holes in the brain substance. Some very marked specimens showing this were exhibited.
7. In the condition known in Germany as "*die Porencephalie*" a large gap existed in the brain substance. This might communicate with either the exterior or the interior of the brain, or with both.
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the lesions, topography, and histological examination are detailed *in extenso*, with illustrations. The worm-eaten aspect of the cortex, to which the author draws attention, was associated with sclerosed prominent patches, identical with the form of hypertrophic cirrhosis described by Bourneville and Brücker (*encéphalite tubereuse*). In the hypertrophied patches the neuroglia gave evidence, by its density, reactions to pigments, and histological features, of being the site of a chronic inflammatory action probably originating in this tissue; the nerve-cells were very sparsely scattered, the pyramidal cells very few in number, and the large "motor cells" almost entirely absent. The neuroglia was likewise infiltrated with a colloid material. In the atrophied and granular patches the condition was similar, with the addition of a still further condensation of the neuroglia, and great paucity of the cellular elements. His arguments strongly favour the assumption that the atrophic sclerosis is but a later stage to which the hypertrophied nodules eventually succumb.—*Brain*.

*Localised Cortical Atrophy secondary to an Extremity Amputation.*—Bourdon (*Progrès Médical*, May 19, 1883) reports the case of a man, seventy-three years of age, who had been subjected at the age of thirty-three to a disarticulation of the left arm. The man died at the age mentioned in thirty-six hours from meningo-encephalitis. Until then he had not any cerebral affection, but his left leg became progressively paretic. There was found on autopsy in the right cerebral hemisphere a notable effacement of the superior part of the ascending frontal convolution. The same effacement was noticeable on the paracentral lobule and crest of the hemisphere. The lateral ventricle of the same side was much increased in size; above all, about the affected convolutions, which denoted an extended atrophy of the subjacent white substance. The neighbouring corpus striatum presented a depression in the centre, and the optic thalamus was slightly flattened in a vertical direction. Sections of the pons and medulla showed a deviation to the right, and that the nerve substance of this side was much atrophied. The right hemisphere weighed an ounce more than the left. This, with six other cases collected by Dr. Bourdon, seems to show that amputation is followed by functional inactivity and secondary atrophy of the superior part of the motor zone of the cerebral cortex. The present case seems to show, in addition, that this atrophy may extend to the central parts of the brain and to the medulla. The paresis of the leg was a result of the extension of the atrophy, in Dr. Bourdon's opinion.—*Alienist and Neurologist*.

*Two Cases of Brain-Tumour.*—Dr. R. B. Mitchell reports two cases (reprint from the *Edin. Med. Jour.*, Nov., 1883) presenting interesting features. Case I.—Male, aged forty, married, had led an intemperate, profligate life; no neurotic history; existence of syphilis doubtful; five years before admission to Morningside Asylum had an attack of left hemiplegia, which was followed by another one more than four years after; subsequently to the second attack his mental powers failed; on admission, he was mentally enfeebled, his facial expression was dazed and vacant, and his memory impaired; sensory and motor functions of left side were affected, left leg trailed, and he often seemed about to fall; articulation indistinct; pupils unequal and contractile. Death occurred after eight months' residence in asylum. Autopsy revealed recent hæmorrhages in left corpus striatum, and the cavity from an old clot in the right corpus striatum. Situated under the posterior part of the floor of the left lateral ventricle was a tumour, three-quarters of an inch in diameter, globular in form, firm and yet resilient in consistence. On sections it had a pale yellow colour, except near the circumference, where a gray, translucent narrow zone existed, and it was well defined, apparently, as to its contour. Microscopical examination showed the tumour to consist of a fibrillated stroma and two kinds of rounded cells. The vessels in its more central parts were in the various stages of obliterative arteritis (illustrations of which are given), and throughout the brain substance the same condition obtained in a lesser degree. Case II.—Male, aged fifty-two, married, had been somewhat intemperate; family history showed presence of insanity, phthisis, and scrofula. Wife had two abortions—one occurring in first pregnancy. Malady commenced with localised pain in right and then in left temple. Then came a convulsive fit nine months after. Subsequently several fits, which did not incapacitate him. Under treatment with iodide of potassium they diminished. A fortnight before admission he became restless and sleepless, and then became threatening in his demeanour. On admission to asylum the predominant features, mentally, were those of enfeeblement and exaltation; memory was impaired and ideas confused; physically—locomotion was slow, gait of right leg somewhat dragging, tongue tremulous, articulation markedly thick and slurred; sensory and reflex functions normal. Improvement took place for a short time, but then severe attacks of “Jacksonian epilepsy” supervened, and death occurred on the twenty-third day after admission. Autopsy showed the dura mater to be adherent to the soft membranes over



the posterior part of the second frontal gyrus of *right* side, and in stripping it off a tumour the size of a hazel-nut, and taking the shape of the gyrus, was found growing from the deep surface of the pia mater. On section it was seen to have precisely the same characters as that described in the previous case. Microscopical examination of the tumour revealed its structure to be similar to that in Case I. The vessels in the neighbourhood were greatly thickened by infiltration of small cells into their coats, and their lumina were correspondingly narrowed; in the corpora striata similar appearances were observed. The nerve-cells were affected with pigmentary degeneration, in the frontal lobes especially. Sections through the thickened meninges showed hyperplasia of the tissue elements, infiltration with new cell growths, and they contained thick-walled vessels. The author considers that although there was no thoroughly unequivocal history of primary syphilis, yet the evidence as to their syphilitic origin is fairly conclusive, and he proceeds to enumerate the points on which this opinion is grounded.

*Tumour of Pons Varolii.*—Dr. F. T. Miles (*Archives of Medicine*) reports the case of a female, aged seventeen, with well-marked cross-paralysis. Complete paralysis of left side of face (involving the articularis and frontalis) and of right arm; incomplete paralysis of right leg; sensation abolished in left half of face, conjunctiva, and nostril; much impaired in the right upper arm; diminished in the right leg; hearing of left ear impaired; paralysis of all the muscles of the left eye; inflammation of left cornea. *Post mortem*.—Externally the pons appeared enlarged and nodulated, the left side especially; the peduncles, especially the left, showing the same appearance. On section it was seen there was a growth occupying the left half of the pons, pushing the raphe to the right.—*Brain*.

*Westphal on a Disease resembling Cerebro-Spinal Sclerosis.*—Westphal (*Archiv für Psych.*, Bd. XIV.) reports with great fulness two cases which presented the symptoms of multiple cerebro-spinal sclerosis. There was paresis of the muscles of the extremities, the trunk and the neck, with rigidity of the muscles, and, as a result of this, delayed and difficult movements; there were tremors when voluntary movements were made; there was "scanning speech" (in one case only—in the other it resembled rather the speech found in bulbar paralysis); the sensory disturbance were slight and transient; the patellar reflex could be evoked, and also the paradoxical contraction; and there were headache, vertigo, apoplectic and hemiplegic attacks and mental symptoms, particularly dementia. The absence

of nystagmus would be regarded by some as an important omission from a case of multiple cerebro-spinal sclerosis; but Westphal's experience is that it is frequently absent. In its place there was an abnormality in the movements of the ocular and facial muscles; the muscles responded slowly to the stimulus of volition, and the movements, when commenced, were slow in execution. This was well seen in the time it took to open and close the eyes. Both cases terminated fatally, after a very chronic course. In one case a careful examination failed to reveal any cerebro-spinal lesion; in the other, the cerebral pia mater was somewhat cedematous, the convolutions small, and the white matter of very firm consistence; but there was not any sclerosis in the ordinary acceptance of the word. Westphal concludes from these two cases that there is a general neurosis (which, for want of a better name, he calls a pseudo-sclerosis) which cannot be distinguished either in its symptoms or in its course from the disease known as multiple cerebro-spinal gray degeneration, or sclerosis. Westphal adds some remarks on the so-called paradoxical contraction of a muscle, brought about by its relaxation, the approximation of its points of origin and insertion. It is best seen when the foot is passively flexed; the foot remains flexed and adducted, owing to the contraction of the tibialis anticus, and it may continue flexed for half an hour. In one of the cases reported in this paper, the paradoxical contraction was observed not only in the tibialis anticus but in the flexors of the knee-joint, in the supinator longus of the forearm, in the muscles of the wrist and finger-joints. This condition is due to a change in the muscular tonus, and bears an analogy to Thomsen's disease (*vide* Report, Sept., 1883), but as yet we know very little about it.—*Brain*.

*Senator on Paralysis of the Fifth Nerve.*—A man, aged thirty-nine (*Archiv für Psych.*, Band XIII.), presented the following symptoms:—Complete anæsthesia of the left half of the face, nose, and mouth; loss of taste in the anterior part of the left side of the tongue; anæsthesia of the left cornea and conjunctiva, there being no blinking on touching the left eye, but if the surface of the right eye was touched, the eyelid of both eyes closed, and the ordinary blinking movements of both eyes occurred as in health; left conjunctiva much injected; cornea softened and opaque; tension of the globe diminished. The only impairment of mobility was paresis of the left masseter. The diagnosis was lesion of the left trigeminus, at some point between its exit from the pons and the Gasserian ganglion. The patient gradually improved under the use of iodide

of potassium, dry-cupping and blistering, but there appeared from time to time slight and transient swelling—first, of the left knee-joint, then of the right knee-joint, and afterwards of both ankle-joints.

Senator regards the above as a case of neuro-paralytic keratitis, and makes some observations on this affection. Clinical facts oppose the theory of external irritation as the cause of the phenomenon, and the present case shows that the eyelids on the affected side still afford a considerable protection to the eye. Clinical facts equally oppose the idea that the arrested flow of the lachrymal secretion, and the consequent drying of the cornea, cause the ophthalmia. The only feasible explanation is, that the appearances are due to some influences acting on the nutrition of the tissues, whether through the vasomotor nerves, or through actual trophic nerve-fibres, is not known. Senator adduces this case in proof of the old view, that the gustatory fibres of the chorda tympani take their origin in the trigeminus. The swelling of the joints he attributes to a vasomotor or trophic disturbance; it certainly was not a rheumatic affection.—*Brain.*

*Progressive Total Hemiatrophy.*—Henechea (*Nord. med. Arkiv*, Bd. XIV., Heft 7, 1883) reports the following unique case:—A man, forty-six years old—one cousin has had melancholia; no other nervous disease in the family—had been of good health up to fourteen years, when he slightly twisted the left foot, and soon after erysipelas attacked the left leg, requiring him to remain in bed. After this he was for some time in and out of bed, owing to the existence of leg ulcers, which were recovered from at intervals. During this time he suffered from prickings and stings in the left half of the body. At the end of six months he noticed atrophic changes in the trunk, extremities, and six months later in the face. At this time he had marked and painful migraine. Since then these modifications are progressing more or less slowly. In his nineteenth year the patient was attacked by melancholia and recovered. Two years and a half ago he had a fresh attack of this psychosis. He married at forty, and is the father of a healthy well-formed child. The patient is well built, but the left side of his face is markedly sunken and atrophied, as also are his left arm and leg. The skull above the eyebrows seems symmetrical, but the left temporal fossa is the deepest. The face is markedly asymmetrical, the left side being sensibly smaller than the right. The nose is, as it were, crowded to the left. The left cheek is

markedly thinned, deprived of its fat and surrounded by radiant striæ. The left eye is thinned but otherwise normal. The eyelids are deprived of fat. The zygomatic bone, the soft parts covering it, and in the temporal fossa and parotido-masseteric region are sensibly atrophied. The skin of the left side of the face is thin. The skin around the left edge of the mouth is slightly pigmented. The left superior maxillary and inferior maxillary segments are markedly atrophied, and the teeth have fallen out. The palatal raphe is drawn to the left. The left soft palate is partially atrophied. The left half of the nose is atrophied. The right face is in marked contrast every way with the left. The neck is symmetrical. The left half of the trunk is slightly less than the right, except in certain places where the atrophy is marked; one of these places is between the fifth and seventh intercostal space; a second stretches from the umbilicus between the tenth and eleventh ribs, about twenty-three centimetres; a third stretches from the crest of the left iliac bone, below the groin, in a line uniting the anterior superior spine of the ilium with the trochanter. Over all these parts the skin is thinned and more or less strongly pigmented. Fat is almost everywhere wanting, so that the muscular fibres are traceable in the skin. The muscles are atrophied, as also is the inter-muscular tissue. The left arm is atrophied as a whole, and shorter than the right. The muscles are markedly atrophied, especially along the head of the triceps, which is almost altogether wanting, and replaced by tendon to the thickness of some millimetres. The skin is contracted, thinned, and pigmented. In consequence of affections of the articulations the arm and fingers cannot be extended. The right leg is strong, muscular, and well provided with fat. The left is thin, weak, and its subcutaneous adipose has almost entirely disappeared. The skin covering the femur is thin, with well-defined pigment. The muscles are atrophied, especially the quadriceps, in which there are two ossifications. The leg cannot be extended because of the alteration of the knee-joint. The left leg is about one-half the thickness of the right. The muscles have almost entirely disappeared, leaving the tibia and fibula covered by parchment-like skin, somewhat pigmented and lacking hair and sweat glands. There is an ankylosis of the tibio-tarsal articulation. The skin of the foot is parchment-like, shiny, and fixed immovably over the bones. The tactile sensibility of the affected parts seems unchanged. In the affected parts fibrillary twitchings are frequent, as also are chillings and drawings. The internal organs present nothing remarkable.

The case is unique as combining hemiatrophy of the face, localised atrophies elsewhere, arthropathies, and from the history is evidently of an ascending nature.—*Alienist and Neurologist.*

#### IV.—NEURO-THERAPEUTICS.

*Beuster on Massage.*—Dr. Beuster, of Berlin, read a paper on this subject at a meeting of the Verein für innere Medicin in Berlin (Rep. in *Deutsche med. Wochensch.*). This form of treatment, which is now being judged by the medical world, is the oldest of all, and has been employed by men in every country and in every age. It was known to the Asclepiades, to Hippocrates and Galen, and the Greeks practised it in the fourth century B.C. In Rome, in the time of Nero and Trajan, massage formed portion of the programme carried out in the tepidarium of the public baths. The Brahmins in India practised it under the name of shampooing; and Alexander the Great, when he was in India, allowed those of his soldiers who had been bitten by serpents to be so treated by the priests. It was brought to Germany by the crusaders from Syria and Palestine, but it soon passed out of the physicians' hands into those of the people, and was employed merely as a pleasurable sensation. Travellers relate stories of its extension to every quarter of the globe. The natives of Nubia and Sennaar employ it largely; and Prof. Hartman found its beneficial effects during an attack of fever to be so decided, that he regretted having refused so long to submit to it. Dr. Emerson tells of its employment by the natives of the Sandwich Islands under the name of Lomi-Lomi; and honoured guests are there shampooed as a special mark of regard. In some cases the people lay themselves on the ground and allow their children to run over their bodies by way of massage—a proceeding which is also seen in the province of Brandenburg. In Japan it has been used from the most ancient times as a refreshment from over-fatigue, as well as to cure diseases. Massage seems, however, to have been employed earliest of all by the Chinese. In the beginning of the present century, a book, "Cong-Fou," 3,000 years old, was translated by the missionaries, Huc and Aniot, in the medical part of which all the proceedings of the Swedish gymnastics are described so fully as to render it likely that they were really taken from this work.

The following are the different movements of massage as now practised, and as the French have formulated them:—

1. *Effleurage*—*Friction Douce.*—Slow, gentle strokes in a centri-

petal direction along the course of the veins and lymphatics, made with the palm of the hand oiled, and with the pressure intermitting so as to cause passive peristaltic action.

2. *Massage à Friction*, in which the finger-tips of one hand, held at right angles to the axis of the limb, rub across and across in narrow ellipses, while the fingers of the other hand stroke parallel to the axis of the limb from above downward.

3. *Kneading (Pétrissage)*, which should also be done from the periphery towards the centre, and which consists in raising up the soft parts and kneading them in a way that may be compared to squeezing a full sponge.

4. *Tapotement*, or tapping or striking, causing concussion of the affected part, which may be done with the fingers, the palm, the margin of the hand, the closed fist, a percussion hammer, or an instrument like a drumstick, with an India-rubber head and a whalebone stem.

The French have also various other instruments, and they employ also the passive movements of flexion, abduction, adduction, rotation, &c.

The amount of power required to be executed is very variable, and it wants much practice and experience. The number of sittings may vary from two to five in the day, and their duration from three to twenty minutes, or even one to two hours. The proceeding seems to cause the operator not only fatigue, but also a nervous excitability, from the action on the nerves of the fingers and hand.

The chief point of the question is the physiological effect which it has on the human body. Prof. von Mosengeil thoroughly discussed the question in the German Surgical Congress in April, 1875. The centripetal stroking favours the venous and lymphatic circulation, and acts backwards even on the parts which are not touched, so that a greater quantity of blood passes through the parts, causing increased tissue metamorphosis. It is clear that the formation of exudation will be thereby prevented, and that exudation already formed will be removed, and even more solid formations will be fattily degenerated and absorbed. Pathological products can be removed even from such situations as the articular cavities, as has been proved by experiment. Another result of massage is the diminution of pain. This may be partly due to the removal of pressure from the nerves; but it is also certain that after massage the entire sensibility of the part is reduced below normal, so that there may be some action on the nerves themselves.

It may be of the nature of paralysis, or of some alteration in the equilibrium between the nervous molecules, especially after "tapotement." The motor nerves, with the muscular contractility and the tone of the blood-vessels, are also affected. Every possible form of disease has been at one time or another treated by massage, but the most important results have been seen in traumatic joint affections, such as bruises and sprains. The most suitable nervous cases for treatment are peripheral neuralgiæ, especially those characterised by injection and a varicose condition of the vessels of the neurilemma. Sciatica has been the neuralgia which has most repaid the treatment, but in other forms also a good result has been obtained. Articular neuroses have been remarkably improved under this treatment, but it is not to be forgotten that they are by some considered to be hysterical in nature. The other neuroses which have been treated successfully by different practitioners are the minor forms of chorea, writers' cramp, hypochondriasis, and hysteria, infantile paralysis, and hemiplegia after apoplexy. It is particularly useful in atony of the stomach and intestines, and even volvulus has been cured by its use. It has finally been employed for relieving the brain of blood, and in one case of a soldier, treated by Herr Gerst, convulsions arising from nephritis were cured in four sittings in one day.—Dr. Alice Ker, in the *London Medical Record*.

*The Ether Douche or Lavement for Local Pain.*—Dr. C. H. Hughes (*Phil. Med. Times*, September 8, 1883) calls attention to the fact that ether lavements have been used by him in all painful surface affections for many years, whether with or without inflammation, but mainly in neuralgic affections. In facial, cervical, and sciatic neuralgias no remedy except Galvanism has given him such signal satisfaction during the past ten years of his practice in neurology. These lavements will cure some cases of recent origin; they will relieve all. In one case, previously reported by Dr. Hughes, he simply poured ether on the head so copiously as to benumb all sensibility and restore a state of ease and mental tranquillity to a patient absolutely maddened by the pain from a cerebellar abscess. The ether douche or lavement in trigeminal neuralgia is quite uncomfortable to many persons on account of the unpleasant impression of the ether on the nose and eyes; and when applied to the supra-orbital region, great care should be taken to keep the ether out of the eyes by laying the head back and covering the eyes with a handkerchief. If the ether should get into the eyes, the patient should be cautioned not to rub them, but simply to sponge the eyes with

cold water, and wait patiently till the ether evaporates. It should be poured on the part until relief is obtained. He applies it in this way to the motor regions of the head, and down the spine; in general or unilateral chorea likewise. Of late years he has heard of the ether spray, but the ether *douche*, or lavement, has been with him a most common and efficient agent in the local therapy of pain, especially superficial pain, for more than a decade, ranking with electricity and better than mechanical vibration for temporary effect.

*Paraldehyde as an Hypnotic and Sedative.*—Since the reports of Cervello and of Morselli upon this drug it has been tried by several other observers. Albertoni gave it to seven insane patients in large doses (three to nine grammes). His results confirm in the main those of Morselli. Dr. Quinlan has tried it in some cases with satisfactory results. It acted like chloral but had no depressing effect. Dr. C. L. Dana tried it upon twelve cases—nine of insomnia, one of supra-orbital neuralgia, two of nervous irritability. It acted well in seven of the cases of insomnia, and in both of the cases of nervous irritability. It had a temporary anodyne effect. It is not so powerful as chloral, but is quite as disagreeable to the taste. Dr. Dana also administered it in large doses to a dog. It caused sleep but did not much affect the heart, but seriously disturbed the respiration. Otto Berger has used paraldehyde in eighty cases—in nine teen sound sleep was produced which lasted several hours; in forty-two, short sleep of one-half to two hours followed; in nineteen, no sleep. Bad after-effects were not present or were slight. The pulse was not much affected. Berger thinks it very valuable in cases where chloral does not act well. Dr. J. Brown reports having used paraldehyde in several cases. In doses of thirty to forty minims it caused sleep. The cost and the disagreeable taste were objections.—*Journ. of Nerv. and Ment. Dis.*

*Treatment of Senile Insanity.*—How can senile insanity best be treated and managed? I can only lay down the principles that I have found useful, and can scarcely enter into the details of individual cases or requirements. The thing of first importance is, undoubtedly, to get a good nurse—a responsible, skilled, patient, experienced person. Women make by far the best nurses for old people of either sex, but for male patients they are sometimes not physically strong enough. After a good nurse (and a daughter or relative will sometimes make the best of all) comes the routine of management—diet, exercise, and regimen. Excitement and new things, or ways, or places, or persons, should be avoided. Old people



take best with what they have been accustomed to. Warmth by night and day is most important, combined with airiness of the apartments. The clothing should be warm by night as well as by day; cold aggravates excitement, and causes dirty habits. The night management is the most important and the most troublesome. It is better not to attempt to keep the patients in bed all the time if they will not stay in bed. Struggling with them causes irritation and resistance. A suite of airy, not over-furnished, apartments downstairs are the best. As to exercise in the fresh air, it is most important. It makes all the difference between being able to manage a case at home at all, or to manage it well in an asylum. It should not be given up to the point of exhaustion, like exercise in young, acutely maniacal cases. The walks should be short and often, and, when the weather admits, sitting in the open air should be practised. Senile patients have a provoking habit of sleeping during the day and waking at night. Better, however, sleep by day than not at all. The diet is also most important. I find the first food of man to be the best at the opposite end of life. There is nothing like milk, given warm and in small quantities at a time, and often. Fatten your patient, and you will improve him in mind. Too much flesh and beef-tea are often too stimulating and indigestible. Cod-liver oil often works wonders, and so does maltine. Fresh vegetables or their juice in soups should always be given. All the food should be minced or pounded for a large number of the cases. Sometimes it is necessary to fit up a special room in a private house for night use, without furniture, warmed, and that can be cleansed daily. Night feeding as well as day feeding is often needed. Often a big stomachful of hot porridge or bread and milk will give a night's sleep far better than a hypnotic medicine. The purely medical treatment is, in senile insanity, the least important, but we can do something in that way. My experience of opium and henbane is unfavourable as sedatives; they diminish the appetite, and often kill the patient. But by means of mild doses of the bromides, with or without small doses of cannabis indica, used *occasionally* as required, we can tide over bad nights comfortably. Tonics are useful, and iron and the phosphates often work wonders. Alcoholic stimulants are often useful, but not so often as is commonly supposed. The bowels should be regulated by the simplest laxatives. Some syrup or treacle given with the evening meal of porridge is often all that is needed for the bowels. The great aim in most cases is to get into

comfortable normal senility as soon and as quietly as possible. In some cases the restlessness and noise are so pathological that nothing seems to have any effect in controlling or abating them. The patient and his brain simply wear themselves out, and every one about him is thankful when all is over without accident. Few points are so difficult to determine as the one of sending a very old person to an asylum or not; the feelings of every one go against it if there is a good home, dutiful relatives, and sufficient means. The best way is to try all other means first. In good asylums we give the poor suffering from senile insanity a sort of treatment that the richest often cannot get at home for any price, and in many cases with remarkable success. If, therefore, there is poverty, and no convenience for treatment, one cannot hesitate about the course to adopt. I am well aware of the imperfect view of the whole senile condition, bodily and mental, that a physician to an asylum is apt to get from seeing the very worst cases only. His picture is filled in with very black shadows. To keep himself right he must take all the opportunities he has of seeing and studying senility outside of an asylum, which I habitually do, trying to look at it with a medico-psychological and pathological eye. I never see an old man who fails to interest me from that point of view. I wish physicians in general practice, who have to meet the smaller emergencies of senility, would put their observations before the world more than they do. I find the management of most old cases is regarded without much interest. And yet what a field of psychological study to be able to watch the waning minds of strong men and subtle women!—Dr. T. S. Clouston, in the *Edinburgh Medical Journal*, June, 1883.

*Treatment of Menière's Disease.*—Grazzi (*Progrès Médical*) divides the cases of this affection into primary or secondary types, the secondary types being due to lesion of the external or middle ear, or to traumatism. He has had good results from the following formula:—B. Quinine valerianate, 3i; solid extract of aconitum napol, gr. 12; solid extract of cinchona, sufficient to make twenty-four pills; give one pill every six hours, decreasing the time between the dose, and increasing the dose till the patient is taking five pills in eight hours; then decrease till recovery.

PART IV.  
MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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ACADEMY OF MEDICINE IN IRELAND.

President—J. T. BANKS, M.D.  
General Secretary—W. THOMSON, M.D.

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OBSTETRICAL SECTION.

President—G. H. KIDD, M.D.  
Sectional Secretary—WILLIAM C. NEVILLE, M.D.

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*Friday November 23, 1883.*

The PRESIDENT in the Chair.

The PRESIDENT thanked the Fellows of the Academy for the honour they had paid him in electing him as President of the Obstetrical Section. He would not occupy time in delivering an inaugural address, but would read instead a communication in the course of the session's work.

*Submucous Fibroid Tumour.*

DR. ATTHILL exhibited a submucous fibroid tumour, globular in shape, and of about the size of a turkey's egg, which he had removed from the uterus of an unmarried lady, aged thirty-five. The patient had suffered for more than two years from constantly recurring uterine hæmorrhages, which had of late become almost continuous, and accompanied by great pain. She consented to a local examination only when reduced to an extremely feeble condition. The uterus was then found to be completely filled by the tumour exhibited, which had been removed by the ecraseur after dilating the cervix. The tumour was attached by a wide base to the fundus, but examination after its removal showed that it had been separated from the uterine wall by a distinct capsule, its connexion with the uterus being maintained by a thin investiture of the proper muscular tissue of the uterus and of the mucous membrane

which had become stretched over it during its extrusion from the uterine wall. Dr. Atthill laid emphasis upon the point that this was not therefore a polypus properly so-called, which should consist of a continuous outgrowth of uterine tissue. There would be no difficulty in tracing the continuity of the uterine muscle into the substance of a true myomatous polypus; while the presence of a capsule causing discontinuity was characteristic of a true fibro-myomatous tumour. This distinction had been drawn by Paget, but had not been sufficiently attended to in current works.

Dr. MACAN and the PRESIDENT expressed dissent from the definition of a polypus as laid down by Dr. Atthill. They understood by a polypus a tumour possessing a pedicle, other considerations being immaterial, and having no effect on treatment.

#### *Uterine Polypus.*

Dr. MACAN exhibited a large uterine polypus which he had removed from the vagina of an unmarried woman, aged forty-five, who had suffered severely from hæmorrhages for twelve years. The tumour had passed into the vagina, being connected with the uterus by a very thin pedicle which, however, bled very profusely on being cut across by the *écraseur*. The size of the tumour, the great length of the vagina, and the rigidity of the external parts made the removal of the tumour very difficult, and in effecting it a rupture of the posterior vaginal wall into the rectum had occurred. The rent had then to be stitched, and the patient was doing well.

Dr. ATTHILL observed that this case was an exception to the rule that polypi, when they had become vaginal, rarely caused much hæmorrhage.

Dr. MACSWINEY inquired whether means might not have been employed to lessen the size of the tumour, and so lessen the risk of vaginal rupture.

Dr. HORNE observed that multiple incisions of the tumour had been successfully used to effect this purpose in similar cases.

Dr. MACAN replied that in his patient the profuse hæmorrhage which had followed the division of the pedicle had made it necessary to remove the tumour more rapidly than would otherwise have been desirable.

#### *Macerated Twin Fœtus.*

Dr. MACAN showed a macerated fœtus which must have died about the sixth month of a twin pregnancy, the other twin continuing to develop until term. The surviving child, weighing 7 lbs., was delivered naturally. Considerable hæmorrhage had ensued, and after the birth of the first placenta a degenerated placenta surrounding the second child followed.

Dr. PUREFOY mentioned a similar case which had occurred in the Coombe Hospital.

*Chronic Inversion of the Uterus.*

DR. MACAN showed the fundus of a uterus which had become inverted after the only labour of a woman, now aged forty-one, nineteen years ago. Since then she had suffered from severe menorrhagia, and had been lately treated by pessaries for prolapse in the country. The upper portion of the vagina was extremely narrow, and the vagina itself so rigid as to preclude the possibility of introducing a hand. He therefore determined on amputating the uterus, bringing the edges of the stump together by a number of sutures, after the method advocated by him for the first time some years since in a paper read before the Dublin Obstetrical Society. The patient was able to walk about a week after the operation, her temperature never having exceeded normal limits.

DR. ARTHILL had found attempts to replace recently inverted uteri very dangerous, their tissues were so soft and lacerable. In one such case his fingers had gone right through the walls of an inverted uterus. When of longer standing the inversion could be more safely treated, but re-inversion might then prove of no great use. Amputation, properly performed, was certainly less dangerous than prolonged and forcible efforts at reduction.

The PRESIDENT had frequently practised the operation as described by Dr. Macan, introducing the ligatures first, then amputating with the ecraseur, and finally bringing the surfaces of the stump together. He had never seen ill effects follow such an operation.

*Induction of Premature Labour illustrated by Three Successful Cases.*

DR. PUREFOY read a paper upon this subject. Having sketched the early history of the operation, and the various methods employed, the author indicated three classes of cases in which the induction of premature labour was indicated—first, in the cases of women with pelvises so narrow that the passage of a living full-time child is impossible, whilst an undeveloped, yet viable, child might safely be delivered; secondly, where several previous successive pregnancies had been interrupted at a certain period by the children's death; thirdly, where the women suffer from morbid conditions likely to disappear or become greatly mitigated by delivery.

Difficulties arise in practice, owing to doubts as to the exact period of pregnancy, and as to the true amount of pelvic deformity. The presence of deformity increases the difficulties in the way of fixing the period of pregnancy, while the patient's own calculations are unreliable. The size of the child's head must be assumed from that of its known averages at different periods of gestation; while the available pelvic space must be carefully measured, as is often necessary, by the introduction of the entire hand into the vagina. In many cases the conjugate of the brain

being the diameter mostly, if not entirely, at fault, it will then suffice to measure this accurately. It is impossible to define narrowly the amount of pelvic deformity to which this procedure is applicable, but its extreme limit may roughly be stated to have been reached when the true conjugate diameter measures 2.75 inches. Dr. Purefoy then narrated the histories of three successive labours induced at the eighth month in a woman with a generally contracted pelvis, whose first labour had only been concluded by a difficult cephalotripsy, subsequently succeeded by a considerable amount of vaginal sloughing. The method adopted on each occasion consisted in the passage of a gum-elastic catheter between the uterus and membranes, supplemented by the use of Barnes' bags. Delivery by forceps in each case resulted well for both mother and child. The author concluded that it is necessary for the certain efficacy of Krause's method that the catheter should be so introduced as to reach the fundus uteri; otherwise contractions might fail to be set up. It was necessary also to exercise caution against wounding the placental attachment. On each occasion he had found vaginal dilatation of much service in keeping up the uterine action. He did not doubt that the children's lives had been saved by the early application of the forceps, and before the os had been fully dilated.

DR. MACAN held that the chief danger in the catheter method consisted in the possible introduction of septic material into the uterus, against which every possible precaution should be taken.

DR. ATTHILL could not regard the operation as an entirely safe one, having lost two out of five patients on whom he had performed it. The great danger was septicæmia. He had originally pointed out that the catheter must reach the fundus in order certainly to bring on labour.

DR. SMYLY remarked on the great difficulty of determining the size of the fœtus. Dependence could not be placed on the fact that craniotomy had been performed during two or three of the patient's previous labours. He considered a bougie much safer than a catheter, the latter affording a ready channel for the passage of air and septic material into the uterus.

DR. NEVILLE had assisted the President in three cases of induction of premature labour. The catheter alone had sufficed in each case to bring on labour quickly, and quite successfully. He would by preference employ a bougie, and of course every antiseptic precaution ought to be taken. He believed that, all things considered, Krause's method formed the safest method of inducing labour, and in his experience it had also been very speedy.

DR. HORNE had induced labour in two instances by this method. One of the patients had subsequently died of septicæmia.

The PRESIDENT having, he believed, tried most methods, had come to the conclusion that the one under discussion was the best, rupture of the membranes being next best, though not so safe for the child. If the

case were one that did not admit of delay, he would employ Barnes' bags. He did not regard it as essential that the catheter should reach the fundus, as in cases in which it had acted quite perfectly he concluded, from its spiral shape on withdrawal, that it had passed round the uterus between its lower segment and the membranes. He had only once used a stilette, and always softened the catheter before using it. Labour usually came on within twelve hours.

DR. PUREFOY briefly replied, and the Section adjourned.

### MEDICAL SECTION.

President—WILLIAM MOORE, M.D., President K.Q.C.P.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

*Friday, January 18, 1884.*

The PRESIDENT in the Chair.

#### *Living Specimen.*

MR. ARTHUR H. BENSON—Case of tabes dorsalis, showing "Argyll Robertson's Sign," well marked, and atrophy of optic nerves.

#### *Specimens by Card.*

DR. WALTER G. SMITH.—Drawings: (1) Multiple onychia; and (2) peculiar condition of skin of scrotum. DR. J. HAWTREY BENSON.—Primary malignant disease of the liver.

#### *Bronchitis and Emphysema, with Remarkable Symptoms.*

DR. H. V. DILLON read a paper on a case of bronchitis and emphysema, loss of taste and partial loss of deglutition, subsequent to injury of upper cervical vertebræ. The facts were these:—D. S., a pensioner, aged thirty-eight years; health always good till injury was received; served seventeen years in the British army, during which time he suffered from dysentery and ague; had had gonorrhœa, but no specific disease. On Jan. 17, 1881, as he was sitting in the fore-castle of a ship, a sailor fell from the yard-arm on to the back of D. S.'s head, bending it and his neck forwards. D. S. felt at the time as if something had given way at the back of his neck. He heard a noise at the seat of injury, and then became unconscious, remaining so for about fifteen minutes. On coming to, he felt excruciating pain at the seat of injury, which lasted for six months, and radiated along the back of the head. At the expiration of this time, a hardened enlargement was remarked at the back of the neck over the three upper cervical vertebræ, in the mesial line. A few months subsequently he got an abscess of the left internal ear, which discharged

externally from July, 1881, to July, 1883. The auditory canal became almost completely closed, and hearing was lost at that side. Subsequently cough and dyspnoea came on, and lasted since. The lungs are emphysematous, and he suffers from bronchitis, huskiness of the voice, impaired power of deglutition, and partial loss of taste. Five months after the left ear distress, ulceration took place in the upper gum, the teeth loosened, and later on there was necrosis of the alveolar process of the superior maxilla, portion of the bone coming away when the teeth were extracted. The hard palate then ulcerated. The respiration is of a harsh and blowing character, pointing to paralysis of the left palate. About six or eight months ago, there was a circumscribed patch of congestion at the base of the left lung, which disappeared on treatment. He had lost flesh considerably since the accident, but had no signs of paralysis. The swelling at the seat of injury was now confined to the right side, having disappeared from the median line within the past year. He could not rotate the head completely to either side, neither could he flex or extend it to the full extent.

DR. HENRY KENNEDY asked if there was any evidence of abscess about the nape of the neck?

MR. WM. STOKES, having seen the case, said it was one of extreme rarity. The view, as suggested at first, that it was a case of cervical dislocation could not be maintained, having regard to the complete absence of symptoms of motor paralysis. He considered the injury resulted in osteitis and periostitis of the upper cervical vertebræ; that the process extended upwards, involving the temporal bone and subsequently the superior maxilla on the left side, and that this was followed by caries. He asked was there any trace of a syphilitic taint.

The PRESIDENT considered the case one of great interest.

DR. DILLON, in reply, denied the existence of any abscess in the neck, or of any syphilitic taint in the patient, and considered that the symptoms might be referred to stretching of the atlanto-axial ligaments and consequent inflammation.

#### *Case of Pneumonia, with Paradoxical Temperature.*

DR. C. F. KNIGHT reported a case of pneumonia, with frequent paradoxical temperature, in a woman aged thirty, and in which large doses of quinine were administered.

DR. CAMERON had frequently tested the temperature of the patient when in the Adelaide Hospital, but never found it above 99°. He suggested the possibility of the absence of toxic symptoms after the large doses of quinine being due to its being mixed with cinchonine.

DR. WOODHOUSE stated that the patient had been in the Hardwicke Hospital last June for an attack of typhoid fever. The temperature at the usual time of convalescence, instead of coming down, went up to



104°-107°, reaching 114° at the end of August, and 127° at the end of September, when, a watch being set, she was detected using a piece of lint twelve inches square, which she acknowledged she had employed for the purpose of raising the register of the thermometer by wringing it out of hot water and secreting it under her pillow.

DR. COX argued that the presence of a cloud in the urine on the application of the picric acid test was due to the presence of quinine.

DR. W. G. SMITH pointed out that the presence of any alkaloid would cause a cloud on the addition of picric acid.

MR. KEENAN and DR. GUNN doubted whether the patient had taken the large dose of quinine prescribed, and concurred with the speakers that the case was one of malingering.

The PRESIDENT and MR. ORMSBY having also joined in the discussion,

DR. KNIGHT replied, and concurred in the view that the case was one of malingering. The picric acid test was applied before a grain of quinine was administered.

*Poisoning by the Ingestion of Tainted Meat.*

DR. J. HAWTREY BENSON read a case of poisoning by the ingestion of tainted meat. [His paper will be found at page 226.]

DR. CAMERON said that as he was himself the patient referred to he had painful remembrance of the circumstances of the case. He never felt so near dying. He had cold sweat and felt utterly prostrate, and had great difficulty in walking. He suffered intensely during the two nights. During the first he did not sleep at all, and obtained only about an hour's rest on the second night. He had intense thirst and suffered great pain. His urine immediately on being passed became quite thick. His mind was quite clear, but he found it difficult to articulate his ideas.

DR. H. KENNEDY thought that at the time the patient took the tainted meat he was so mentally depressed and being inclined to gout he was unfavourable to resisting any disease. With reference to the absence of the second sound of the heart, he had frequently remarked this to be the case in the last cholera epidemic.

DR. FINNY thought Dr. Kennedy's remarks as to the absence of the second sound of the heart proved the converse of his proposition, because while cholera was preceded by evacuation from the intestinal canal, in this patient there was no loss of the usual fluid circulating in his body. He could not understand any reason for the absence of the second sound in this case.

DR. COX asked where simple indigestion ceased and poisoning began, as he himself had frequently suffered almost as much after taking different kinds of food which disagreed with him as the patient under discussion.

DR. LENTAIGNE mentioned a case where effects similar to those described had been produced by the ingestion of imperfectly boiled

Brussel sprouts, causing irritation of the intestinal canal. The objectionable matter having been passed, the patient quickly recovered.

MR. F. A. NIXON.—The theory advanced by the last two speakers is opposed by the fact that other members of the family who had partaken of the turkey suffered also.

The PRESIDENT and DRs. DILLON, J. E. KENNY, and W. A. CARTE having joined in the discussion,

DR. BENSON replied.—He said there was no second sound to be heard over the aortic valves, due, he considered, to the extreme lowering of the arterial tension, preventing the flapping back of the valves from being heard. He could not undertake to say when indigestion ceased and poisoning began. Anyone seeing his patient during his illness could have had no doubt that his was not a case of indigestion. The fact of other members of the same family being affected confirmed this view.

#### BROMIDE OF ARSENIC IN DIABETES MELLITUS.

SOLUTION of bromide of arsenic is to be given in doses of one drop in a glassful of water. This dose is gradually increased to three drops three times a day, always in the same amount of water. The urine is to be constantly examined. When the amount of sugar is decreased, as usually happens in about fourteen days, then decrease the arsenic to a one-drop dose again. This can be kept up for years. Extreme attention need not be paid to the diet, but ordinary care as regards acids, starchy and sweet food should be taken. The greatest enemy of the diabetic is bad air—the air of chambers. Fresh air is most essential.—*Med. Record and The Analectic*, No. I.

#### GLAUCOMA AND CILIARY NEURALGIA—ELONGATION OF THE EXTERNAL NASAL NERVE.

BADAL (*Annales d'Oculistique*) recurs to the subject of the treatment of ciliary neuralgia by elongation of the external nasal nerve, on which he had previously written. He thinks that the clinical facts hitherto observed are in favour of this method of treatment. The operation has succeeded in several cases in which both sclerotomy and iridectomy have failed. His manner of performing the operation is as follows:—After dividing the skin and muscular layer with a bistoury, he dissects away with two strabismus hooks the subjacent cellular tissue, and then, scraping along the periosteum from below upward with one of the hooks he pulls out the vasculo-nervous bundle. The vessels are then separated from the nerve, in order to avoid any unnecessary hæmorrhage, and the nerve is then stretched as far as may be necessary.—*N. Y. Med. Jour.*

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P., F.R. Met. Soc.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday,  
January 26, 1884.*

Towns	Population in 1884	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES								DEATH-RATE per 1,000	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	Deaths from Phthiasis	From all causes	From seven Zymotics
Dublin,	351,014	787	720	107	196	-	-	28	4	12	20	6	92	26·7	2·6
Belfast,	216,622	504	380	57	68	-	1	18	4	13	2	15	53	22·8	3·2
Cork,	80,124	153	171	15	50	-	20	1	-	2	8	3	18	25·3	5·5
Limerick,	38,562	88	91	16	29	-	2	4	-	7	1	1	7	30·8	5·1
Derry,	29,162	52	51	9	15	-	-	4	-	1	2	2	5	22·7	4·0
Waterford,	22,457	43	59	3	12	-	-	-	-	6	2	1	8	34·2	5·2
Galway,	15,471	55	31	10	12	-	-	-	-	-	2	1	4	26·1	2·6
Newry,	14,808	27	17	5	6	-	-	-	-	-	-	-	2	14·9	—

## Remarks.

The death-rates included in the foregoing table are based upon the population of the various towns estimated to the middle of the year 1884.

The returns of mortality generally continue to be favourable, principally as a result of a remarkably open winter. In some of the selected towns, however, serious epidemics of zymotic diseases tended to raise the death-rate. It was especially high in Waterford and Limerick; high in Dublin, Galway, and Cork; moderate in Belfast and Derry; low in Newry. The rate of mortality from seven zymotica ranged from 5·5 per 1,000 per annum in Cork, 5·2 in Waterford, 5·1 in Limerick, 4·0 in Derry, 3·2 in Belfast, and 2·6 in Dublin and Galway to *nil* in Newry.

The recorded deaths represented a rate per 1,000 of the population annually of 21·1 in twenty-eight large English towns (including London, in which the rate was 20·3), 25·1 in the sixteen chief towns of Ireland, 25·8 in Glasgow, and 19·4 in Edinburgh. If the deaths (numbering 24) of persons admitted into public institutions from localities outside the Dublin Registration District are deducted, the death-rate of that

district becomes 25·8, while that of the portion of the district included within the municipal boundary appears as 28·3.

Acute febrile zymotics were returned as the cause of death in 73 instances in the Dublin district, compared with 96 in the preceding four weeks and a ten-years' average of 140·2 in the corresponding period. This group of maladies therefore was little more than half as fatal as usual. The 73 deaths included 28 from scarlet fever, 20 from "fever," 12 from whooping-cough, 6 from diarrhoeal diseases, and 4 from diphtheria. The epidemic of scarlet fever is apparently decreasing—the registered deaths being 18 fewer than those recorded (46) in the preceding period of four weeks. Of the 20 deaths from "fever," 13 were ascribed to typhus and 7 to enteric fever. Thirteen children aged between one and five years succumbed to scarlet fever. All the 12 victims of whooping-cough were under five years of age and four of them were not a year old.

The epidemic of measles continues in Cork, where 20 deaths were caused by it, against 18 and 9 in the two preceding periods. Scarlet fever was less fatal in Belfast and Derry—the deaths being 18 and 4, compared with 25 and 10 respectively. Whooping-cough shows a widespread prevalence and fatality. Diarrhoeal diseases were credited with 29 deaths in the eight towns, against 18 in the previous four weeks.

In the Dublin Registration District 787 births and 720 deaths were registered, compared with 630 births and 864 deaths in the last four weeks of 1883. The births were those of 402 boys and 385 girls. The deaths of infants under one year fell from 153 to 107; those of persons aged sixty years and upwards fell from 206 to 196.

The deaths referred to pulmonary consumption in the eight towns were 189, compared with 170 and 173 in the two preceding periods of four weeks each. In Dublin diseases of the respiratory organs are stated to have caused 161 deaths, against 185 and 165 in the two preceding periods, and an average of not less than 255·7 in the corresponding four weeks of the previous ten years. The 161 deaths included 115 from bronchitis (average = 189·7) and 22 from pneumonia (average = 34·9). These figures bear testimony to the extreme mildness of the present winter. Of the 115 persons who succumbed to bronchitis 15 were infants under twelve months, whereas 37 had passed their sixtieth year.

On Saturday, January 26, 1884, there were under treatment in the principal Dublin hospitals one case of measles, 70 of scarlet fever, 44 of typhus, 16 of enteric fever, and 11 of pneumonia.

The mean temperature of the four weeks was 45·4° in Dublin, 43·8° in Belfast, 47·3° at Roche's Point, Co. Cork, 43·1° at Greenwich, and 42·0° in Edinburgh. All these values were about 5° in excess of the average.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.,  
Long. 6° 15' W., for the Month of January, 1884.*

Mean Height of Barometer,	-	-	-	29·969 inches.
Maximal Height of Barometer (on 15th at 9 p.m.),	-	-	-	30·670 „
Minimal Height of Barometer (on 26th at 2 15 p.m.),	-	-	-	28·150 „
Mean Dry-bulb Temperature,	-	-	-	45·2°.
Mean Wet-bulb Temperature,	-	-	-	43·0°.
Mean Dew-point Temperature,	-	-	-	40·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·257 inch.
Mean Humidity,	-	-	-	84·2 per cent.
Highest Temperature in Shade (on 29th),	-	-	-	55·8°.
Lowest Temperature in Shade (on 27th),	-	-	-	31·2°.
Lowest Temperature on Grass (Radiation) (on 27th),	-	-	-	29·8°.
Mean Amount of Cloud,	-	-	-	74·1 per cent.
Rainfall (on 18 days),	-	-	-	2·358 inches.
Greatest Daily Rainfall (on 23rd),	-	-	-	·380 inch.
General Direction of Wind,	-	-	-	W, S.W.

*Remarks.*

A singularly open, frostless month, with scarcely any easterly wind, but a great excess of cloud. A protracted mild and quiet dull period was succeeded on the 22nd by a series of strong westerly gales and frequent heavy rainfalls, the atmospheric disturbances culminating on the 26th in a storm of exceptional violence, during which the barometer fell to 27·400 inches at Aberdeen and to 27·332 inches at Ochtertyre near Crieff in Perthshire.

The mean temperature (45·2°) was slightly over 4° in excess of the average for January in the twenty years, 1865–84, inclusive. The rainfall (2·358 inches) and rainy days (18) were both rather above the average for the same period—namely, 2·243 inches and 17·1 rainy days. Hail occurred on the 1st and 30th, snow or sleet on the 25th, 26th, and 27th. Lightning was seen on the nights of the 20th and 25th. A lunar halo appeared on the 10th, and “blurred” solar halos on the 29th and 30th. A dense vapour fog prevailed on the morning of the 3rd, but with this exception there was a complete absence of fogs. The bright sunsets so characteristic of the present season were again seen on several occasions. Pons’ comet was well seen to S.W. after dark in the middle of the month.

On the 1st a general fall of the barometer presaged the approach to the western shores of the British Islands of a series of depressions, which brought southerly winds, high temperatures, and frequent rains.

The second week was again a period of open weather, with strong westerly winds, a good deal of cloud, and occasional showers—the mean temperature of the seven days ending with Saturday, the 12th, was  $46.2^{\circ}$  in Dublin—that is,  $6^{\circ}$  above the average. The phenomenal warmth of the present winter continued through the third week (13th–19th, inclusive), the mean temperature of which in Dublin was  $47.1^{\circ}$ , or some  $7^{\circ}$  above the average. At the same time the weather was quiet, dull, and dry—an anticyclone being found over the Bay of Biscay and France. The mean height of the barometer for this week in Dublin was 30.519 inches, or more than half an inch above the average. Very light showers fell on several days about this time, but they did not yield any measurable rainfall. Pons' comet of 1812 was well seen from Dublin or its vicinity in the south-western sky on the 17th and following evenings.

The fine weather broke up on the 21st, after which very rough, stormy, and inclement weather prevailed over Western Europe to the close of the month. A series of extensive and very deep atmospherical depressions came in from the Atlantic in rapid succession, passing towards E. or N.E. across the British Isles and Scandinavia. Barometrical gradients were rendered excessively steep by the simultaneous presence of a high pressure system over France and Spain, so that dangerous S.W. or W. gales occurred as each depression approached. On the 20th the weather in Dublin was bright, and after sunset a splendid display of colours was seen in the south-western sky—lightning was observed from many stations at night. At 8 a.m. next morning the barometer read 30.74 inches at Rochefort in France. On the 25th sleet showers fell at intervals, and the Dublin Mountains appeared covered with snow. On Saturday, the 26th, the most remarkable atmospherical disturbance of recent times passed rapidly across Ireland and Great Britain. In Dublin the barometer fell to 28.150 inches at 2 15 p.m., but this reading—although far lower than any recorded in this city during the past twenty years at least—fades into insignificance when compared with the observations made at stations nearer the track of the centre of the cyclone. Thus at Mullaghmore, Co. Sligo, the barometer sank to 27.76 inches at 2 p.m. By 6 p.m. it was down to 27.69 inches at Donaghadee, and 27.67 inches at Ardrossan, in Ayrshire. Still lower readings were—Glasgow, 27.427 inches at 9 p.m.; Ochertyre, near Crieff, in Perthshire, 27.332 at 9 45 p.m.; Edinburgh, 27.451 at 10 p.m.; and Aberdeen, 27.400 at midnight. On the occasion of the memorable storm of January 6 and 7, 1839, the lowest value recorded at Aberdeen was 27.695 inches, or nearly three-tenths of an inch higher than in the late storm—in fact, the barometer is believed to have fallen lower near the centre of this cyclone than it had done for at least 120 years. In the rear of this violent disturbance strong westerly winds and snow squalls prevailed—in Dublin snow fell heavily at times on the 27th.

A thaw on the 28th was succeeded by a rapid rise of temperature, and unsettled wet weather.

It is noteworthy that the mean temperature of January was about 2° in excess of that of last November, and nearly 3° in excess of that of last December.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### SYPHILITIC NEURALGIA.

ACCORDING to Fournier, syphilitic neuralgia generally affects the infra-orbital and sciatic nerves, but it also affects the intercostals, branches of the brachial plexus and occipitalis major nerves. The writer describes a new variety of neuralgia, not to be confounded with the osteocopic pains so frequently met with in the temporal regions, located in a zone of two or three finger-breadths, extending over the top of the head, from ear to ear. The position of the painful zone, the comb worn by young girls indicating the exact location, shows that the neuralgia is connected with the auriculo-temporal and occipitalis major nerves. The affection constitutes a late symptom of syphilis; from the observations of the writer, it sometimes appears fifteen years after infection, and never has it been seen before two years. Therefore physicians have often mistaken its origin. Fournier considers it as a pathognomonic symptom of syphilis, and does not believe it is connected with any other general affection. When met with he does not hesitate to affirm the syphilitic infection, and to administer anti-syphilitic treatment, even in cases where all information is to the contrary. The following case would seem to justify these views:—A woman, twenty-six years of age, presented herself, suffering with the special neuralgia described, and desired the application of electricity. She had taken, for four weeks, salicylic acid and iron, without benefit. The paroxysms were at times so violent that morphia and chloral were powerless in lessening the pain, and the patient passed nights without sleeping. When questioned, she denied any previous venereal disease. Upon examination there were found swelling of the left submaxillary glands, of the anterior surface of the forearm, and grayish lenticular patches, which all syphilographers do not consider of equal value, but which the writer believes to be pigmentary syphilis. Potassium iodide was prescribed. In two days the patient reported that the pains had so diminished that she was able to sleep without morphia. In six days the neuralgia had completely disappeared. The result of the cure does not leave any doubt; however, it is interesting to add that,

later, notwithstanding mercurial frictions and the administration of corrosive sublimate, syphilis was manifested by the characteristic exanthemata and by the pharyngo-buccal ulcerations.—*Archives Générales de Médecine*, Dec., 1883, and *Polyclinic*, Jan., 1884.

#### MULTIPLE CUTANEOUS ULCERATION.

In the number of *The American Journal of the Medical Sciences* for January, 1884, Dr. I. Edmondson Atkinson records a case of universal interest and almost unique character, which is closely related to that rare and remarkable disease known as symmetrical gangrene. The symptoms were briefly a papulation and vesiculation, followed by a very superficial destruction of the epidermic structures and the most external dermal tissue. This was followed, more or less rapidly, by ulceration of progressive character, so that, in the highest degree, in a very short time, not only muscle, fibrous tissue, and cartilage, but even bone was destroyed. At no point was there gangrene in mass, if we may exclude the secondary destruction of bone, but, on the other hand, rapidly progressive and molecular gangrene. This ulceration, while showing a tendency to affect similar parts of corresponding members and regions, could hardly be termed symmetrical. The right side of the face suffered much more severely than the left, while the left upper and lower extremities were decidedly more affected than those of the right side. The extent to which motion and sensation were impaired was indeterminate. The child lost the power of locomotion, but whether from diminished nerve influence directly, or from increasing general debility, was not evident. Certainly there was no complete paralysis. Similarly with sensation, it was difficult to determine the true condition. That there was abnormal sensation was certain, but whether there was itching or paræsthesia was a matter of doubt. There were no scratch marks, nor was any expression of pain elicited upon handling the parts. On the other hand, there can be no doubt that the sensation of pain was decidedly blunted, as shown by insensibility to quite rough usage, and by the violence with which the child bit and rubbed her extremities, even to the production of lesions and the copious discharge of blood. This bluntness of sensation extended beyond the area of lesions, and amounted to a decided numbness. Distinct symptoms of vaso-motor disturbance were not observed; the description of the mother, however, that the extremities became dry and wrinkled, is of significance, though it must be admitted that this was not observed while the child was under treatment. The colour of the child's skin would also doubtless interfere with the recognition of vaso-motor phenomena. As causes of this remarkable condition, Dr. Atkinson was able to include mercurial intoxication, and that from ergot or other medicaments which occasionally excite gangrene or destructive ulceration in those into whose bodies such



agents have been introduced. Dr. Atkinson thinks there can be no doubt that this disease belongs to the group of affections which the late Oscar Simon first named "multiple arthritic gangrene." According to Simon, it attacks, almost exclusively, children between one and two years old, and begins with vesicles which dry into scabs. These fall off and leave a loss of substance of varying depth, in some cases even reaching to the bone. In all cases cachexia may be recognised. He regards the process as a gangrene produced by a cachectic thrombosis. It is not unlike the forms of gangrene produced by ergot, morphia, or in the course of diabetes, typhus, or in paraplegics. The prognosis is good. The treatment should be principally of a tonic character. In the absence of definite knowledge of the pathogenesis of these and kindred lesions, and in view of the unmistakable vaso-motor disturbances observable in the more pronounced forms of the affection known as symmetrical gangrene of Raynaud, Dr. Atkinson thinks we can do no better than provisionally accept the theory of Weiss, according to whom the disease is a neurosis, in which the vaso-motor centre is, from whatever cause, readily thrown into a state of hypertonus; the importance of the symptoms depending upon the dignity of the parts upon which the vascular spasm is developed. Contraction of the cutaneous arteries will produce a bloodless condition of the skin. By venous spasm is produced local cyanosis, and by contraction of vaso-dilators local active hyperæmia. Similarly, by vascular spasm of those portions of the posterior columns standing in functional relation with the skin, will be produced nutritive disturbances of the skin and epidermic structures.

#### ON THE TREATMENT OF HAY FEVER AND ALLIED DISORDERS.

In a very valuable paper on this subject in *The American Journal of the Medical Sciences* for January, 1884, Dr. Harrison Allen claims that the means of effecting the cure of this hitherto considered incurable disease is simply to overcome the tendency to obstruction in the nasal chambers. The symptoms of hay fever are always associated with some degree of obstruction of one or both nasal chambers. A cause of this obstruction is dilatation of the blood vessels. There is no doubt that the local phenomena are in most instances the same, and that the multiform related symptoms, such as injection of the eye, headache, malaise, asthma, &c., are due to reflex vaso-motor disturbances. But many patients report for treatment who exhibit swelling of the nasal mucous membrane, occlusion of the respiratory passages, and mucoid or semi-purulent discharge, without any of the related reflex phenomena. Yet a third and intermediate group exhibit perhaps a tendency to turgescence of the mucous membrane, together with one or many of the more common constitutional symptoms of typical hay fever. Indeed, there is nothing peculiar to the disease just named save its sharply defined periodicity, particularly in

that phase of it where the periods of recurrence happen to coincide with the time of fruitage of certain plants, or the gathering of certain crops. In a small group of cases, where, in addition, other signs and symptoms become prominent which would invalidate the above proposition, Dr. Allen is inclined to attribute them to mental impression—in some of the varied phases of hysterical or neurotic excitement. The conclusions to be drawn from the study of the six cases reported by Dr. Allen may be summarised briefly as follows:—(1.) That the treatment of all conditions of obstruction in the nasal chambers, no matter from what cause arising, can be successfully carried out by destroying the causes of obstruction. If the cause be an overgrowth of bone-tissue, it must be filed, sawed, or drilled away. If it be caused by a deviated cartilaginous portion of the septum, such portion must be re-set in a new place. If, as is often the case, it is due to periodic turgescence of the mucous membrane or the resulting secondary hypertrophies, such growths must be destroyed, by either the galvano-cautery, by the snare, or by caustic acids. (2.) That the treatment of hay fever and allied periodically recurring nasal affections in no way differs from the treatment of other nasal diseases accompanied by obstruction, and that the treatment may be conducted during an attack as well as in the intervals between say two attacks.

#### TRISMUS NASCENTIUM.

In an elaborate paper on this subject in *The American Journal of the Medical Sciences* for January, 1884, Dr. J. F. Hartigan supports the theory advanced by the late Dr. Marion Sims, that the symptoms are due to the effects of mechanical pressure on the brain by displacement of the occipital or parietal bones as the result generally of decubitus, and that they may be relieved simply by rectifying this abnormal displacement, often by change of position in lying alone.

#### CHROMIC ACID IN ULCERS OF THE TONGUE.

J. PAGET advised the use of a concentrated solution of chromic acid in the psoriasis of the tongue. Butlin used a solution (0·5 to 100) by means of a brush in the different varieties of ulcer of the same organ. The effect of chromic acid in secondary syphilitic ulceration was highly satisfactory, while the rhagades of the tertiary stage healed very kindly.—*Wiener med. Blät.* and *The Analectic*.

#### SURGICAL TREATMENT OF MASTURBATION.

INSTEAD of performing castration in cases of masturbation and nocturnal emissions not amenable to other treatment, Dr. Timothy Haynes recommends the removal of portions of the spermatic ducts in place of the testicles. An incision midway between the external inguinal ring and

the testis lays bare the duct, from which half an inch is resected, and the slight wound closed by sutures. By this simple operation, which leaves no deformity of the genitals, Dr. Haynes claims to have succeeded in improving the mental and physical condition of three patients, while the sexual appetite was as effectually destroyed as by castration.—*Boston Med. and Surg. Jour.*

#### IMPASSABLE STRICTURES.

M. GAURON, in some nearly impassable strictures, by means of a funnel, a yard of rubber tubing, and an elastic catheter, with hot water, succeeds in getting a sound into the bladder. The implements being joined together and filled with hot water, the patient lying in bed, and the funnel raised about a yard above the mattress, the oiled catheter is passed as far as the seat of the stricture. The penis is lightly compressed in order to prevent regurgitation of the water, and the sound held in contact with the stricture. Hot water is poured into the funnel, and the column of liquid is maintained to press upon the stricture for three quarters of an hour. When withdrawing the sound leave the urethra full of water, then immediately endeavour to pass an ordinary sound. In most cases it will pass at once, and may be left.—*Canada Pract. and The Analectic.*

#### PHARYNGITIS.

Two grains of the chloride of ammonium, combined with ten or fifteen minims of the tincture of cubebs, given every half hour, oftentimes controls acute pharyngitis and superficial inflammations of the other tissues about the throat. For inflammation of the throat dependent upon a gouty diathesis, add to this mixture ten minims of ammoniated tincture of guaiac, and administer every hour.—(Dr. A. A. Smith.)—*Med. Record* and *The Analectic.*

#### SYPHILITIC FEVER.

A CASE is reported by Dr. Duflocq, in *La France Méd.*, where a young man, twenty-five years of age, exhibited all the symptoms of typhoid fever. The great extent of the eruption excited suspicion, and a further examination revealed a cicatrix resting upon an indurated base on the glans penis, with enlarged inguinal glands. Under anti-syphilitic treatment he recovered in about two weeks. The early appearance of the eruption (third or fourth day), and its abundance, are valuable diagnostic signs in the differentiation of syphilitic from typhoid fever.—*The Analectic*, No. I.

[Cf. Dr. Burney Yeo's communication on Pyrexial Syphilis, and the discussion thereon, at the meeting of the Clinical Society of London on Feb. 8th, 1884.—*vide British Med. Jour.* of Feb. 16.—ED. PERISCOPE.]

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## NOTICES TO CORRESPONDENTS.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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APRIL 1, 1884.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. XIV.—*Fractures of the Leg.*<sup>a</sup> By ALEXANDER GORDON, M.D., Edin.; Professor of Surgery, Queen's College, Belfast; late Visiting Surgeon, Belfast Royal Hospital.

Does a good collection of specimens of fractures of the leg resolve itself into well-defined species? To this I reply most decidedly in the affirmative. Does each species demand distinct modifications of treatment? To this I also give the same answer. When I consider the frequency of fractures of the leg, and the deformity and lameness too often dependent upon them, I think these results may be attributed to the practice of viewing them in too narrow and restricted a light, assuming that they require for their successful treatment little variations in position and apparatus.

The following are the species and varieties into which the specimens in Queen's College Museum resolve themselves. I have no doubt as the collection increases other forms shall present themselves—of which the present classification is the beginning—of a more extensive and accurate system than that which now prevails, and without which our practice will be empirical rather than scientific.

1. *The Articular Fracture of the Upper End of the Tibia.*—The obliquity of the femur from without inwards and downwards, and the perpendicular position of the bones of the leg, cause the shock or impulse of the body, in leaping or falling from a height, to impinge chiefly upon the outer articular facet of the tibia; besides,

<sup>a</sup> Read before the Ulster Medical Society, on February 26th, 1884.



the sharpness of the outer margin of the external condyle of the femur concentrates the force upon the outer part of the outer articular facet, and sometimes drives it into the cancellated tissue of the head of the tibia beneath it. There are three specimens of this accident in the Museum of the Queen's College. In two of them the tibia and fibula are also broken near their middle, presenting examples of the chisel-shaped fracture of both bones of the leg. In one of the two the compact tissue has been driven nearly half an inch into the cancelli of the head of the tibia. The appearance of the knee in this form of fracture would resemble, in a slight degree, genu valgum.

The third specimen shows less depression than the other two, but equally well marked, and not complicated with any other fracture of either of the bones of the leg. I leave it to future observers to give us a more detailed account of this accident, which I believe to be not uncommon.

*Treatment.*—In the first form, where the compact tissue is driven into the cancelli, I do not see how it can be elevated. But in the second variety, where the condyle is broken with fracture of the fibula, we might, by adduction of the leg, separate, to a slight degree, the articular surfaces from each other; and if at the same time the leg were extended, the biceps flexor cruris would be extended, and more or less elevation of the condyle and broken fibula might be attained.

2. *Simple Transverse Fracture of the Upper End of the Tibia.*—This fracture traverses the upper expanded extremities of the tibia, a little above, through, or a little below the anterior tuberosity. There is no appreciable displacement. The patient is unable to raise the leg in the extended position, but when we grasp and fix the upper end of the tibia with one hand, and with the other seize the leg above the ankle and move it from side to side, distinct motion between the fragments, with slight crepitus, will be easily recognised; but all doubts will be removed when we make pressure along the line of fracture, acute pricking pain will be complained of, caused by the very minute spicula wounding the soft parts, especially under the tendons of the gracilis and sartorius muscles.

*Treatment.*—As there is little or no tendency to displacement, all that is requisite to do is to keep the extremity in the extended position and apply a well-padded splint on each side of the limb, extending from the foot to the middle of the thigh, well secured by straps and buckles.

3. *Oblique Fracture of the Tibia from before upwards and backwards.*—This fracture is often compound, and is usually caused by great force applied to the crista. When the fracture is high up, the lower end of the upper fragment projects very much forwards, while the upper end of the lower fragment is displaced backwards. The fibula is usually broken opposite the seat of fracture in the tibia. In one instance the fibula was dislocated.

*Treatment.*—If we place the limb in the extended position, the deformity persists, and the more we extend or pull the worse it becomes. If we place it on its outer side, and attempt to relax the muscles by flexion, muscular spasm supervenes, aggravating very much the deformity. If, on the other hand, the heel splint, suitably padded, be applied to the back of the leg, and the limb slowly and gently raised until the thigh forms nearly a right angle with the pelvis, and the leg a right angle with the thigh, the deformity will generally disappear; then placing a thick pad along the anterior border of the upper fragment and dorsum of the foot, we apply the front splint, and, to prevent rotation or lateral motion, a Cline's splint well padded on each side of the limb.

Sometimes, notwithstanding the relaxation of the muscles consequent upon this position, the lower end of the upper fragment still projects forwards. Now the question will arise: What is the cause of this projection? Is it the quadriceps extensor cruris which pulls the fragments forwards, or the upper end of the lower fragment tilting it forwards? If the projection be from the action of the gastrocnemius and soleus acting on the lower fragment, then the flexion of the leg upon the thigh must be increased, whilst upon the other hand, if it be from the quadriceps extensor, the leg must be more raised, and the angle of the thigh with the pelvis diminished until the extremity assumes the position adopted for fractured patella.

When the seat of fracture is lower, approaching the middle of the bone, the padding applied to the back of the leg must be full, whilst that in front should extend only to the lower end of the upper fragment. A small pad must also be applied to the dorsum of the foot. By this arrangement of the pads, there is a space between the lower fragment and the back of the anterior splint, and there is therefore no impediment to the lower fragment being pressed forward.

4. *Oblique Fracture of the Tibia from before downwards and backwards.*—In this fracture, which is generally about the middle of the tibia, the sharp end of the lower fragment often protrudes

through the integument, the foot is carried backwards, bringing with it the contiguous part of the lower fragment, and causing its upper end to project very much forwards. The fibula is generally broken at or near the seat of fracture in the tibia.

*Treatment.*—When the upper end of the lower fragment protrudes through the integument the patient is to be placed upon the back, the thigh flexed very much upon the pelvis, and the leg upon the thigh; then an assistant seizes the upper portion of the leg, whilst the surgeon grasps the foot and lower part of the limb, and makes extension downwards and backwards; then, on slowly raising the heel, the deformity will disappear. The heel splint, well padded below, is applied to the back of the leg; then a pad in front, extending over the dorsum of the foot and entire length of the tibia, is laid along the crista, and over this is placed the anterior splint; then a Cline's splint, well padded, is applied to each side of the limb, to prevent lateral displacement, and the whole secured by straps and buckles, or a bandage, and the limb placed upon the "rest," or a MacIntyre's splint, with the leg-piece elevated. Salter's apparatus, as usually made, does not allow of sufficient elevation, and, therefore, does not give us the relaxation of the posterior muscles of the leg requisite to the apposition of the fragments. It is in this form that the sharp angular end of the lower fragment is found to have burst through the skin, which, closing around it, prevents reduction. The practice to be followed, I think, should depend upon the acuteness of the fracture. If it be narrow and long, we may saw it off, and then, raising the heel, it will slip into its place; or it may be necessary to pass a director into the wound, elevate the integument, so as to draw it over the projecting point. If the projecting end be of considerable thickness, it will be better to enlarge the wound in the skin. After this we cover the wound with a piece of lint, saturated in the compound tincture of benzoin, and apply the splints as before mentioned.

5. *Fracture of the Tibia, with displacement of a large central fragment.*—I saw lately an instance of this form of fracture, the result of a railway accident. The seat opposite to that upon which the patient had been sitting at the time of collision striking the leg, forced from the middle of the tibia backwards a large triangular fragment. It was in the eighth week after the accident when I first saw him. This triangular fragment was quite movable, and displaced considerably backwards and slightly inwards. The upper and lower portions of the tibia were approximated, causing con-

siderable shortening of the limb; the latter, at its lower end, was inclined considerably inwards, while its upper end pointed outwards. The impediment to the replacement of the middle fragment was the approximation of the upper and lower pieces of the tibia.

*Treatment.*—The limb had been slightly raised, and two Cline's splints had been applied, with pads on each side. To allow of the return of the displaced fragments, it was necessary to raise the leg much higher, in order to produce greater muscular relaxation. Flexing it upon the thigh, and the thigh upon the pelvis, the heel splint, well padded, was applied posteriorly; a small, soft pad was placed over the triangular or middle fragment, and a thick one along the inner side of the foot and ankle, and a Cline's splint applied to the leg on its outer and inner surfaces. The effect of this change in the position of the limb in a few days became apparent, as the middle fragment had nearly resumed its proper position, and after this the case progressed most favourably; and, considering the serious character of the injury, the patient has recovered with a very useful limb, with scarcely any deformity or lameness.

The case may be regarded as the type of this form of accident, and its treatment cannot be successful unless the muscles are relaxed to their utmost, to enable us to make room for the displaced middle fragment.

6. *Simple Transverse Fracture of both Tibia and Fibula at the junction of the Lower Third with the Upper Two-thirds.*—Is a comparatively rare accident, and is caused by direct violence, applied transversely, breaking both bones on the same plane. There is no vertical displacement, and the deformity which results is displacement backwards of both fragments. The tibia and fibula are sometimes soldered together; at other times they are not so, but the interosseous space is diminished, with a narrowing of the transverse breadth of the leg at the seat of fracture.

*Treatment.*—In the treatment of this fracture the heel, or posterior splint, must be well padded at the seat of fracture. The front pad should be thick over the lower end of the tibia. The limb may be placed in the straight position, and when the anterior splint is applied and the straps tightened it will act chiefly upon the lower end of the lower fragment, and push it backwards. In this, as in the spiroid fracture, we must be on our guard not to allow the lower fragment to rotate on its vertical axis. For this purpose we must apply a Cline's splint on the outer side of the limb, the foot-piece being well padded to prevent this rotation.

In two well-marked specimens of this accident, in the Queen's College Museum, inclination of the fragments backwards has produced a very great convexity behind, or concavity in front, which becomes remarkably apparent when we stand and look horizontally across the limb; and more than this, as the weight of the body is thrown on the posterior part of the articular surface of the tibia, and the astragalus, a chronic arthritis and osteitis supervenes. This is a very good example of the mischief which results, unperceived by the surgeon, until too late, by treating the accident with a Cline's splint on each side, or by the use of a starch bandage. By the former there is no support behind, and both fragments gravitate backwards; and by the latter, from the looseness caused by the shrinking of the limb, and the weight upon the heel, a similar deformity results. And, moreover, it presents us with another instance of chronic osteitis, supervening when the natural bearing of the joint surfaces upon each other is altered, and leading to a chronic inflammation which persists, entailing lameness for a long time after the accident.

If the limb be placed on the "double-inclined plane," and steadied by two Cline's splints, the heel will gravitate backwards, carrying with it the lower end of the tibia, and producing an unusual prominence of the upper end of the lower fragment in front. And this remark is applicable not only to this, but to other forms of fracture of the leg, which tend to gravitate backwards from want of adequate support to the heel.

7. *The Chisel-shaped Fracture of the Tibia.*—This is by far the most common of all the fractures of the leg, equalling in number almost all the other fractures conjoined.

It is caused by force being applied from without inwards. The patient in walking sets the outer side of his foot upon a stone. The outer side of the foot being thus elevated, the inner side is depressed, and the weight of the body being suddenly thrown obliquely across the tibia, it breaks obliquely from without inwards and downwards, the fibula, giving way sometimes opposite, but most frequently close to the head. On examination, the lower end of the upper fragment may be felt somewhat rounded, with a little projection in its middle, and the displacement seems slight, but it is always much greater than it appears.

As the upper end of the lower fragment is displaced outwards, the change which the lower or articular end undergoes deserves more consideration than has been accorded to it. The articular

surface becomes more oblique with elevation of the internal malleolus, and the foot following the articular surface, its inner border is more raised, and most of the patients who have received this accident walk afterwards more on the outer side of the foot than usual.

*Treatment.*—Of all the fractures of the leg, the following mode of treatment is that which I found followed by the most satisfactory results:—Observing that the inner malleolus was raised, in order to bring it downwards to its natural position, two conditions were necessary—the first was to relax the muscles; the second was to powerfully abduct the foot; and to enable me to do so I had a splint constructed, to which I have given the name of the “double-bevelled splint.” It is made of a piece of pine, about an inch in thickness, and of the general form of Cline’s splint. The foot-piece is cut off obliquely, so as to allow of abduction of the foot. Placing a thick pad on the leg portion of the splint, the limb resting on its outer side is placed upon it, then grasping the upper end of the leg with the one hand, whilst with the other seizing the foot and foot-pieces of the splint, and gently flexing the leg upon the thigh, at the same time abducting the foot, it will almost uniformly be found that in the act of flexion the bones drop accurately into position—so accurately, that it is even difficult to detect where the limb is broken. Then apply the front and back splints, secured by straps and buckles. The patient is to be kept lying upon his side, with the leg flexed upon the thigh, and the thigh flexed upon the pelvis. Some patients dislike the side position, and will complain against it; but if the surgeon be resolute, in a few days they will become reconciled to it.

I have a cast of a fracture of this variety, in which the tibia is broken an inch above the inner malleolus, with fracture of the fibula, two inches from the lower end, with displacement of the malleolus outwards, consequently with great increase of the inter-malleolar space. Where the fibula is broken so low down, and displaced as described, the abduction of the foot would be injurious; it, therefore, must be kept straight, and with this exception treated as previously described.

There is also another specimen of this accident, in which the foot is so much turned inwards that the patient walked on the outer part of its upper surface, as if he had been suffering from talipes varus.

8. *Spiroid Fracture of the Tibia.*—This fracture occurs in the middle third, or rather in the lower end of the middle third of the tibia, and is usually caused by force applied to the inner surface of

the tibia whilst unsupported, except at its extremities. The lower end of the upper fragment presents internally an elongated spire, which, being driven into the upper end of the lower fragment, splits it obliquely downwards, the fissure extending into the articular surface. The upper end of the lower fragment behind presents also an elongated spire, less acute, however, than the internal. The sides of the inner spire are cut vertically to the surface, whilst the spire of the lower fragment is divided obliquely, showing in the clearest manner that the osseous fibres of the compact tissue of the internal surface of the tibia have been broken by compression, whilst those behind, or externally from their obliquity, have given way by elongation.

*Diagnosis.*—The diagnosis of this accident is easily made. The elongated spire of the upper fragment projects the integument so prominently that it can be easily seen and felt, and the crista of the tibia is also remarkably prominent, notwithstanding the great effusion of blood which takes place immediately after the accident.

*Treatment.*—Those surgeons who have written on this accident regard it as one which will often require amputation. From the few examples I have seen of it, the treatment will be as successful as any other fracture of the leg, and with as little deformity. Take the heel splint, pad it well, especially opposite the seat of fracture, then raise the limb, supported by the splint, until the thigh forms a right angle with the pelvis, and the leg a right angle with the thigh, and whilst the assistant holds the leg in this position, the surgeon, seizing the foot, makes gentle extension, and at the same time rotates the foot inwards—the fragments then usually drop into their most accurate approximation, all deformity disappearing. Immediately after the accident, from the foot resting upon the heel, and from the action of the *tibialis anticus* and the extensors of the toes, the lower fragment is rotated outwards.

If extension be made with the outward rotation maintained, it will be of no use; the fragments will not go into position. It is absolutely necessary, then, while we extend to rotate inwards. If we place the limb in the extended position the fragments will not go into their place; and, even should we succeed in the reduction, on the following day the deformity will have reappeared.

The way to treat this accident is to take the heel splint, well padded, raise the limb, flex the thigh upon the pelvis, and the leg upon the thigh, and having corrected the deformity by extension and rotation of the foot inwards, place a Cline's splint on the outer

and another on the inner side, with a front splint, all suitably padded, and made firm with straps and buckles. This position must be maintained for four or five weeks by placing the limb upon a box, a "double-inclined plane" with the foot-piece elevated, or a leg—"rest."

Special care must be taken to place a thick pad between the foot-piece of the outer Cline's splint and outer margin of the foot, to maintain the rotation inwards of the foot. The limb may also be placed flexed in the same manner resting on its outer surface, but the leg must be well flexed on the thigh.

The explanation of the great fatality of this accident is mainly due to two causes, viz. :—(1). The sharpened end of the upper fragment often bursts through the skin, making the fracture compound, or subsequently making its way through the integument by ulceration. (2). The spire of the lower fragment, which is usually very sharp, wounds the vessels behind, and great effusion of blood takes place, injecting the limb; and if we add to this the inflammatory products and putrefaction of the effused blood, we can then easily see why the accident should be so frequently fatal. Now, however, the antiseptic mode of treatment may have some influence in counteracting such disastrous results.

9. *The Bread-cart Fracture.*—I have given this name to a not uncommon accident in which a person is thrown down by a bread-cart, jaunting-car, or other vehicle running quickly. The patient being thrown on his side, the wheel passes over the inner surface of the leg. If it be at the ankle-joint, both malleoli will be found to be broken off, and the lower end of the tibia crushed and comminuted. If it be higher up, at the junction of the lower with the two upper thirds, the compact tissue of the inner surface will be broken into lozenge-shaped fragments, and driven into the medulla, and also displaced outwards, with fracture of the fibula, at the point where the wheel passes over the limb, the inner malleolus being elevated. If the wheel has passed higher up, the inner surface of the compact tissue will present numerous elongated spicula, whilst the angles, which are the strongest portions of the bone, will be broken off, and present themselves as long detached fragments. A moment's reflection will show us that this is a most serious accident, although there may be no external wound; for the long sharp fragments are driven into the medulla, which will lead to inflammatory action ending in death of many of the loose spicula; therefore, the fact of a wheel passing over the limb as described, although



the injury and deformity may seem at first sight trifling, should lead the surgeon to give a very guarded prognosis, as the inflammation, suppuration; and necrosis will sooner or later necessitate amputation.

*Treatment.*—The limb should be placed resting upon its outer side, with the thigh flexed upon the pelvis, and the leg upon the thigh, with the foot abducted, and the inclination of the fragments either forwards or backwards should be prevented by the anterior and posterior splints.

10. *Fracture of both Malleoli on the same plane as the inferior surface of the Tibia.*—Both malleoli may be broken off with various forms of severe fractures of the leg, but, in the accident to which I have given this name, the injury is confined to the fracture of the malleoli, and it is caused by (1) forced extension of the foot with the leg more or less fixed, or (2) by forcible extension of the leg with the foot fixed. The accident may be regarded as the first stage of dislocation of both bones of the leg forwards or of the foot backwards.

*Diagnosis.*—The diagnosis is very easy, as the heel is carried backwards and upwards, whilst in front the lower end of the tibia projects slightly forwards. Both malleoli may be felt movable with slight crepitus; and as the processes follow the foot backwards, a small space in front may be felt between the inner malleolus and the tibia.

*Treatment.*—Apply the heel splint well padded below, then the front splint with a thick pad over the lower end of the tibia, a Cline's splint on each side, thickly padded, over the malleoli, so as to press them firmly against the articular surface of the astragalus. The heel splint pushes the foot forwards, whilst the front splint presses the tibia backwards, and the Cline's splint fixes the foot, preventing any lateral deviation of the fragments, as either abduction or adduction would act injuriously by displacing the fragments. The leg may be placed in the extended position—if so, it may be requisite to have the straps, which bind the splints together just above the ankle-joint, very tightly buckled, to prevent the heel from going backwards; however, if there be the slightest tendency to projection of the heel backwards, then the leg should be placed upon the "rest" in a semi-flexed position. Dislocation of both bones of the leg forwards is to be treated in precisely the same way, but the semi-flexed position should be adopted from the beginning.

11. *Potts' Fracture.*—There may be some difference of opinion as to what is meant by Potts' fracture. I, therefore, restrict the term

to that not uncommon form of accident in which the inner malleolus is broken off with fracture of the fibula from one and a half to two and a half inches above the lower end of the outer malleolus. In whatever position the patient may be lying when we see this accident, the foot is usually abducted and displaced outwards, with its inner border depressed, and the heel carried usually more or less backwards.

*Diagnosis.*—The diagnosis is very easy. The inner malleolus may be felt to be movable, and the border of the tibia from which it has been detached may be distinctly felt. On the outside the outer malleolus will be pressed outwards by the displaced foot, whilst the upper end of the lower fragment will be carried inwards and often forwards, producing a diminished transverse breadth of the leg at this point, with increased lateral diameter lower down, at the point of the malleoli. As this accident is caused by twisting of the foot outwards, or by forcible abduction, we may consider as different degrees of the same accident—(1) *Simple Fracture of the Fibula*, from one and a half to two and a half inches from its lower end; (2) *Potts' Fracture*; and (3) *Dislocation of the Tibia inwards, or the foot outwards*—the simple fracture of the fibula being its mildest form, Potts' fracture being the more severe, and the dislocation of the tibia inwards the most severe form. This classification or arrangement of the subject will simplify matters, as the principles of treatment are the same in each. In simple fracture of the fibula the heel is usually displaced backwards, with widening of the inter-malleolar spaces.

*Treatment.*—Various modes of treatment have from time to time been recommended, but whatever mode be adopted, the heel must be pressed forward and the foot adducted. By Dupuytren's mode of treatment, or placing a thick pad extending along the inner side of the tibia to the malleolus, with a wooden splint extending beyond the foot, it will maintain the foot sufficiently adducted to correct the deformity caused by abduction; but it does not act sufficiently on the heel to bring it forwards and restore the fibula to its natural position.

The tibio-fibular articulation is the centre of the movements in these accidents—thus, when the heel is carried backwards, the lower end of the lower fragment is carried backwards, while its upper end projects forwards; and in addition to the lower end being displaced outwards by the abducted foot, the inter-malleolar space is increased, with diminution of the transverse breadth of the interosseous space

at the seat of fracture. In the treatment of fractures of the fibula no pressure should be made on any part of the shaft of the bone between the points at which it rests against the tibia; hence, in the treatment by Cline's splint along the outer side of the limb, one pad should be applied over the outer malleolus and outer surface of the foot, whilst the upper pad should rest upon the head of the fibula and above it, so that the whole length of the body of the fibula will be free and uncompressed.

If the upper end of the lower fragment projects forwards, then it becomes necessary to use some appliance to push and maintain the heel well forwards. The heel splint will do this. It is necessary to apply an anterior splint to enable us to act upon the posterior splint. Then place the limb on its outer side, with a pad on its outer margin, so that when the limb is placed on its outer side the foot shall be well adducted. Care should also be taken that in Potts' fracture and in dislocation inwards, where the inner malleolus has been broken off, the outer margin of the foot should be well raised; for if the foot be allowed to rotate outwards, the inner malleolus will also be unnaturally rotated.

From the description now given of the treatment of fractures of the leg followed by me, it resolves itself into the use of apparatus of the most simple kind—the heel splint, the front splint, two Cline's splints, and a double-bevelled splint, which permits of the fullest abduction of the foot. Next, the position in which the limb is to be placed—first, in the straight or extended position, which is applicable only to a few cases, and it may be confined to those cases in which, from their nature, vertical overriding is impossible; secondly, where the patient lies on his back, the thigh flexed almost to a right angle on the pelvis, and the leg upon the thigh; thirdly, those in which the patient lies upon his side, with the leg well flexed upon the thigh, and the foot either abducted or adducted.

I have used the term "rest," and this name is given to an apparatus which consists of four upright posts made of iron, which support a platform either end of which can be elevated or depressed, and which admits of the leg being placed upon it with very slight extension, or of being at either a right or acute angle with the thigh, giving us all the muscular relaxation necessary to enable us to counteract overriding of the fragments.

I have no faith in the prevention of overriding by forcible extension. Where I have tried it I have failed, but when my attention

was directed so as to produce the most perfect muscular relaxation, I do not remember an instance in which it failed. All displacements—forwards, inwards, backwards, or outwards—may be easily prevented by the four splints—the front, heel, and two Cline's splints—and then placing the limb in a position in which the muscles are relaxed.

There is another point which, as regards position, must be carefully observed by the surgeon—namely, if the fracture be oblique from before backwards and upwards, or from above downwards and backwards, the patient must lie on his back; for if he be placed on his side lateral deviation of the fragments will take place, and muscular spasm will be the result. If the fracture be oblique from without inwards and downwards, then the limb must be placed on its outer side, with flexion of the leg upon the thigh, and the thigh upon the pelvis. To make my meaning more easily understood, placing the one hand upon the top of the other, the flat surfaces must look upwards and downwards. That is the position in which the fracture must be treated. Turn the hands so that the edges will be vertical, then it will be seen how easily the ends of the fragments will become displaced.

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ART. XV.—*Notes of a Case of Primary Lateral Sclerosis.\** By  
C. J. NIXON, M.B. Univ. Dub.; Senior Physician to the Mater  
Misericordiarum Hospital.

THE records of cases of primary lateral sclerosis have been of late years so numerous that but little, if any, value can be attached to a reiteration of symptoms already well known and fully analysed; yet recent experience has shown me that the advances made in the semeiology and localisation of affections of the spinal cord—advances of a degree perhaps not equalled by the results of investigation of diseases of any other organs—are not as widely known as they might be, or as they deserve to be. There is probably no class of diseases to the investigation of which more interest is attached than that of spinal cord disease—none of more importance than when its existence or non-existence, its trivial or its grave nature, becomes the subject of legal investigation. Notwithstanding the obscurity which still surrounds the development of many of its morbid changes and the unsatisfactory results of the

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treatment of its more serious lesions, still it must be admitted that the basis established by physiological and pathological investigation for the differential diagnosis of diseases of the spinal cord is, in the main, a sound and rational one, and probably no affection of the cord more fully shows this than the disease an example of which I now bring under the notice of the Academy of Medicine :—

CASE.—P. K., an intelligent and fairly healthy-looking boy, aged fifteen, was admitted into the Mater Misericordiæ Hospital on Jan. 31 in this year. He was, even at this early age, a farm labourer, free from illness prior to his present one, and having a family history in all respects good. He received no injury or hurt of any kind, strain or otherwise, and he had not been subjected to wettings. In May last he remarked his right leg becoming stiff; it dragged after him whilst walking, and he was obliged to use a stick. In about a week afterwards he found that strength had returned in the leg in its full degree. In the latter end of July the same leg again became weak, and he now remarked that when he sat down, or if he were startled in any way, the leg began to tremble, and he was obliged to seize it with both his hands in order to cause the tremor to cease. Two months later on the left leg got affected. He had then considerable difficulty in walking, felt fatigued in the legs after the least exertion, and had his progression constantly arrested by the limbs becoming, as he himself expressed it, “as stiff as a poker.” After a few moments the rigidity passed off, and he could then resume walking until it recurred. The difficulty in using the limbs increased to such a degree that a short time before his admission to hospital he had entirely lost the use of them.

On examination at the hospital his condition was found to be as follows :—

As the boy lay in bed it was observed that both legs were fully extended and closely locked together by firm contraction of the adductors; the foot in the position of talipes equino-varus, but the great toe, during the first moments of inspection, in a state of extreme flexion owing to a temporary spasm of the long extensor pollicis. As a rule, during this condition of rigid extension of the limb, the contraction is so great that, with the most forcible effort, one is unable to overcome it so as to bend the knee to a right angle. This rigid condition is frequently produced by rapid flexion and extension of one or both legs, and occasionally by the patient making an effort to use the limbs, as in trying to get out of bed. The expression “tetanoid paraplegia,” given to the condition by Seguin, conveys the idea of this state of contraction very fully. Accompanying it was the most marked increase in the reflex action of the tendons—viz., patellar and quadriceps reflex and ankle clonus. The slightest amount of passive flexion of the foot produces the

most marked ankle clonus; the patellar reflex is so exaggerated that at times a slight tap given to the ligamentum patellæ when the limb is raised in extension produces either ankle clonus without passive flexion or a well-marked tremulation in the entire limb of a perfectly rhythmical character, which after a time communicates itself to the opposite leg. This convulsive trepidation, or, as it is called, spinal epilepsy, can as a rule be arrested by firmly pressing on the leg above and below the knee, by forcibly extending the foot upon the leg, or, as Brown-Séquard has suggested, by grasping the great toe of the limb affected and flexing it forcibly and suddenly. The ankle clonus exists to such an extreme degree that it is difficult to demonstrate the front tap contraction of Gowers, but it can occasionally be produced when the foot is passively extended at a certain angle. A very well-marked periosteal reflex can be produced on sharply percussing over the anterior surface of the tibiæ. The superficial reflexes are diminished; no effect follows tickling of the soles of the feet, though the patient feels distinctly the peripheral irritation. There is no disturbance of any form of sensibility, no wasting of the muscles of any marked degree—certainly not more than could be accounted for by the non-use of the limbs—and no evidence of any form of trophic disturbance. The urine is normal in its composition, and the functions of the bladder and rectum are perfectly unaffected. There is some rigidity and loss of power in the back, and the patient is unable to keep himself raised in bed without being supported. The electrical examination of the muscles shows a very decided lowering of both galvanic and faradic excitability. The temperature of the limbs is reduced, but not to a greater degree than could be explained by the absence of muscular action. This inaction explains the alteration which exists in the circulation through the skin of the paralysed legs—the condition known as the “atonic hyperæmia by stagnation” being the mottled appearance which one sees so constantly in the spinal paralysis of children.

The prominent features of the case just narrated are—Motor paralysis of the lower limbs, without impairment of any form of sensibility; the absence of vesical and rectal weakness; the presence of muscular contracture and increase of the deep reflexes to a marked degree; and the absence of any sign of trophic disturbances in the muscles or in the skin and cellular tissue. The study of this disease is interesting, as it affords an instance of the localisation of an anatomical lesion in the cord, deducible from physiological and pathological considerations, before its site was determined by *post-mortem* investigation. Thus the absence of impairment of sensibility, of vesical weakness, of signs of ataxy

and of trophic disturbances, excludes disease in the central gray portion of the cord, in the posterior horns of gray matter, and in the posterior columns. The absence of muscular atrophy and the presence of the tendon reflexes show that there can be no lesion of the anterior horns of gray matter, of the anterior roots of the spinal nerves, and probably of the anterior columns connected with those roots. Affections of the columns of Goll are secondary to transverse myelitis or to posterior spinal sclerosis, the symptoms of which pre-exist, whilst disease of the lateral cerebellar tracts is always secondary and ascending, being associated with transverse myelitis, or with what is known as the cortical or ring-shaped sclerosis met with as a result of meningo-myelitis. There is then a lesion of no portion of the cord left to connect with the symptoms of cases such as that I have described but the lateral columns and probably a small portion of the gray substance. Strongly supporting this localisation of disease *par voie d'exclusion* are the thorough researches of Türck and Bouchard on the symptoms of secondary degenerations in the spinal cord and their pathogeneses. The slowly developed contracture met with in cases of hemiplegia and the marked increase of the tendon reflexes afford a parallel train of symptoms to those occurring in primary lateral sclerosis, whilst the pathological anatomy of the former condition is with certainty to be sought for in the course of the pyramidal tracts. It is all the more interesting that the assumed lesion in the cord in spasmodic spinal paralysis, based on the physiological and pathological researches just laid down, should have been verified by *post-mortem* examination of cases where the symptoms of the disease had been accurately noted during life, as in the cases recorded by Drs. Morgan and Dreschfield, and by Aufrecht; so that notwithstanding Leyden's opposition to the localisation of the disease in the lateral columns of the cord, the weight of evidence may be regarded as entirely in favour of this view.

The way in which primary sclerosis of the lateral columns is set up is a question which may fairly be the subject of discussion by the Academy. In secondary lateral sclerosis there can be no doubt but that the first evidence of disease is met with in the nerve-fibres, which undergo a marked degeneration before any alteration is noted in the connective-tissue, and it seems reasonable to assume that these degenerated nerve-fibres may be the source of an irritation or inflammation set up in the neuroglia in connexion with

them, which leads to its rapid proliferation. But in primary sclerosis the pathological changes which are found suggest difficulties which as yet are not solved. Thus we are uncertain as to whether the disease is inflammatory, or whether it represents merely a degeneration, or whether it may not be a mixture of both processes. Does it commence in the nerve-fibres or in the connective-tissue? In the absence of anything to account for a primary degeneration, it seems most probable that it represents a form of chronic myelitis, commencing, as is believed by Remak and Senior, in locomotor ataxy in two ways—viz., 1st, as a parenchymatous sclerosis where there is a primary irritation with degeneration of the nerve elements themselves; or, 2nd, as a primary irritation and proliferation of the interstitial tissue—i.e., interstitial sclerosis with subsequent implication of the nerve elements.

I may draw attention for a moment to the anatomical characteristics of the three forms of gray degeneration met with in the lateral columns, and which I have figured in a sketch.

1. The form observed in primary lateral sclerosis, where the entire of the posterior half of each lateral column is occupied by the degeneration which reaches the surface of the pia mater.

2. The form observed as a result of disease of the spinal cord, where the gray degeneration, although it reaches the pia mater, does not extend to the posterior horns of gray matter. In these two forms both direct pyramidal tracts are involved.

3. The rounded gray degeneration standing out in sharp outlines from the surrounding substance, not reaching the pia mater, and involving the innermost division of the anterior column of the opposite side. This is the form met with in the descending degeneration following brain disease.

It is interesting to note the differences which sometimes exist with regard to the cutaneous and the deep reflexes in lateral spinal sclerosis. There is good reason to believe that the two forms of reflex are conducted through separate paths in the spinal cord. Thus the deep reflexes probably pass through the posterior root-zone to reach the multipolar cells of the anterior cornua—hence the extinction of tendon reflex in advanced posterior spinal sclerosis. On the other hand, the superficial reflexes pass probably directly into the posterior horn of gray matter, and thence through the gray substance into the anterior cornua. This difference in the course of the fibres of the reflex arc serves to explain the existence in some cases of one form of reflex with extinction of the other.



The marked increase of the tendon reflexes in lateral sclerosis is traceable to two conditions—1st, the removal of cerebral influence upon the spinal cord; and, 2nd, the development of tension rising to contracture in the paralysed muscles, which keeps the peripheral termination of the afferent and efferent nerves in a constant state of irritation—hence the increased irritability of the reflex arc. That this, however, is not a full explanation of increased tendon reflex, is shown by the fact alluded to by Ross, that patellar tendon-reflex often manifests itself in hemiplegic limbs long antecedent to the establishment of the condition known as late rigidity. This, at all events, seems to point to the probability of the deep reflexes representing compound phenomena, the nexus of the elements of which we do not as yet thoroughly understand.

In conclusion I may observe that the case is peculiar in two respects—first, in its occurring at a comparatively early age; and, secondly, in the rapidity with which paralysis of the lower limbs was produced. The records of cases of this disease show that it is most frequently met with between the ages of thirty and forty-five; and the transition from paresis to total loss of motor power in the limbs often extends over a period of several years. But, except in these instances, the case presents the symptoms of primary lateral sclerosis in a most marked degree; and, not with a view of suggesting anything original in the conception of the disease, but to illustrate its typical features, I thought an example of it worthy of being brought under the notice of the Academy.

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ART. XVI.—*On the  $\mathcal{E}$ tiology of the common Climatic Fevers of the Kumaon-Hill Ranges in North-Western Bengal.\** By SURGEON-MAJOR ALBERT A. GORE, M.D.; Fellow of the Royal College of Surgeons, and Member of the King and Queen's College of Physicians in Ireland; in Medical Charge of the Female Hospital, Staff and Departments, Dublin.

THESE fevers present themselves under two very distinct forms in this section of the Indian hills—viz., as intermittent and remittent. The latter fever has been defined by systematic writers as one with remissions and exacerbations, the former being less distinct in proportion to the intensity of the fever; that it is malarious, and

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characterised by irregular repeated exacerbations, great intensity of headache, accompanied by functional disturbance of the liver; that its advent is, as a rule, sudden, the hot stage being more intense than in ague, pulse 90 to 120, the tongue dry, white or yellowish, with, in the severe form, high delirium, very constant inability to sleep, and headache relieved by epistaxis. Some physicians of local repute have asked the question, "Whether there are such diseases as remittent and infantile remittent fevers to be met with in India as distinct from enteric fever?" while others deny the existence of malaria in the Indian hills, and consequently cannot understand the presence of a disease depending upon this factor for its origin. The following facts speak for themselves:—

Of the severe epidemic fever which prevailed in the neighbouring North-West Provinces in 1879, Mr. Planck, the sanitary commissioner, wrote: "Although in many of the rapidly fatal cases the fever action was continuous to the time of death, yet in no instance were we able to discover any symptom in proof of the fever being enteric. Diarrhoea was never complained of, the temperature was established at its highest point on the second day, the highest observed being  $105.2^{\circ}$ , the intense fever action culminating in congestion of the brain and death by coma—a distinct malarial fever, always of a remittent type amongst those dangerously ill; of an intermittent type where expectations of recovery could be entertained, the temperature ranging between  $102-104^{\circ}$ , the pulse 100–120, commencing as a rule, in the morning, with shivering and headache, pain in the back and limbs, the most common complications, pleuropneumonia and jaundice. If the patient survived the first shock, remissions, or even intermissions, followed, with anæmia, according to Pringle, differing in no respect whatever from that met with in many portions of Lower Bengal."

The great varieties in the degree and severity of the types of this fever, acknowledged by all systematic writers, have often rendered its diagnosis extremely difficult. In the Kumaon hills it is a climatic fever varying in intensity and duration, according to the dose of malaria, exposure to intense heat, individual peculiarities of constitution, different altitudes, the causes of scurvy, or an acquired anæmia from a previous residence in the plains. Anomalous or complicated hill fevers are not confined to Bengal. In the Rocky Mountain regions of North America, in the days of the early pioneers, fevers prevailed which were at first thought to have been modifications of typhoid, but which Waggoner, in 1865,

showed to be clearly malarial remittent, cured by large doses of quinine, 65 to 70 grains per diem in divided doses. Later on, in 1873, Smart pointed out that in some of the stations—with nothing apparently malarious in their surroundings, and a temperature going down as low as 32° F. for ten months of the year—as the spring advanced cases of remittent fever occurred, with languor, sallow complexion, pulse about 100, muscular stiffness, especially about the finger-joints, a peculiar tongue, with a smooth bluish-white film, with or without a yellow fur at the base; a primary stage of one, two, or more weeks of oppression by the influence of the *materies morbi*; a secondary, developing the fever with irregular remission, depression and muscular prostration; and finally a typhoid stage marked by prostration, emaciation, low delirium, and coma-vigil, certainly not typhoid, for the symptoms during life and the *post-mortem* appearances of that disease were both wanting, quinine rapidly curing it, proving its malarial origin. One of the stations, Fort Bulger, was 7,000 feet high, but all the river-waters, even those looked upon as pure mountain streams, were found to contain a quantity of undecomposed organic matter of vegetable origin. He thought that the malarious poison was swept up with the organic matter and precipitated by the snow, the cases occurring just at the time when the stream is carrying off the autumn rains which fell upon the mountains. He calls it “aqua-malarial fever, or the adynamic remittent” caused by the ingestion of malarious waters. Scurvy has been frequently noticed in these regions.

Skirting the base of the Himalayas from end to end for many hundred miles is the vast irregular tract of high, and in many parts impenetrable jungle, termed the Terai. The greater part consists of forest, dense thicket, and tangled vegetation, and in many parts, especially near the banks of the rivers and margins of lakes, a very high description of tall, feathery-topped grass grows at intervals, and spreads for miles over the face of the country. When this grass has been burnt by the villagers to obtain fresh pastures for their cattle, park-like glades clothed in bright green prevail, and here and there numerous jheels and swamps, some of which never dry up. At certain seasons this vast expanse is so malarious as to be uninhabitable, while the passage through it at the close and commencement of this period is not unattended with risk, or at the least impressing upon the individual the malarial taint.

According to Mr. Traill, an early Commissioner of the province of Kumaon, owing to the labouring classes being occasionally

obliged to descend into the valleys, "the air of which is invariably noxious throughout the year, the purity of the natural atmosphere being also contaminated by the state in which the villages were kept, during the worst seasons of the year general sickness prevailed in the shape of quotidian, tertian, and quartan fevers." Mr. Herbert, in his "Survey of the Himalayas," alludes to one tract 30 miles N.W. of Almorah, uniformly level, and watered by the Gaomuttee, 3,800 feet above sea level, which is so unhealthy that it has been allowed to run waste; while he noticed that other spots in the beds of rivers in the advanced parts of their courses, the lowest in the mountains and the hottest, fertile and in general fully cultivated, were also more or less malarious, especially at the breaking up of the rains, and when narrower than usual were so notoriously subject to "awal" or jungle fevers as to be entirely neglected. Again, Macnamara states that malarious diseases are exceedingly common throughout the province, even "amongst those whose houses are situated in very elevated localities."

Surgeon-Major Walker noticed similar facts as to the extreme unhealthiness of the lower level villages beneath the Chuckrata hill in 1870, when roads were being made here—116 cases, or 39·69 per cent. of the total admissions among the working parties being for ague, 95 being of the quotidian variety, 20 of the tertian, and 1 of the quartan. The disease prevailed mostly in July and August, and reached its maximum in September, again showing itself in November and December. He noticed that those living at 5,000 to 7,000 feet above sea level were affected; that anæmia and general debility followed, but splenic enlargement was exceptional. He thought that the malarial influence might be wafted to the higher regions from the unhealthy valleys, the clouds formed in the latter during the rains being afterwards transported to the mountain tops. The road which ran along the valley of the river was so unhealthy during and after the rains that travellers contracted a severe form of remittent fever even by exposure for three or four hours to the malaria of the gorge-like valleys. The sappers and miners engaged in constructing a road in this valley suffered much from fever and pneumonia of a malarial origin. It is also well known on the Kumaon tea estates that coolies who had never been to the plains suffered much from ague. Dr. Brown saw in Nepaul during the hot and rainy seasons many of the residents of the valley attacked with intermittent fever, which changed to that of a severe remittent if they visited the low-lying valleys or Terai.

Mild cases of dysentery were also common. The mean height of this valley was 4,784 feet. At Almorah, capital of the province of Kumaon, three marches from Ranikhet, in the ten years 1867-76 intermittent fever prevailed to the extent of 376 per 1,000 of the total admissions. The native troops (Ghoorkhas) suffered less than the poorer civil population, being better fed, lodged, and clothed. This station is lower than Ranikhet, and as a health-resort not much frequented. Nevertheless it has always had a high standard of health, which Dr. Govan, the Civil Surgeon, informed me he attributed to the fact of its not being so overcrowded as other hill sanatoria. During his recollection only one case of typhoid had occurred—an imported case—in the person of a child who contracted it when resting on a camping ground which had been much fouled by natives; but he had noticed cases of remittent fever, sometimes followed by relapse, anæmia, and sallow complexion, and then had a lady under treatment whose appearance to me was very characteristic of the malarial dyscrasia. It is well known that a low typhoid state is, under certain circumstances, not uncommon in these malarious fevers, and that they appear "often in different forms, and assume very great variety of aspect" (Cutcliffe). With regard to even a moderate elevation determining the type of the fever, the following interesting fact noticed by the late Dr. Bryden is worth recording:—In 1859, during the epidemic of malaria, he found the elevation of the Fort of Buxar (40 feet) sufficient to alter the type of fever. Every case among the men of the naval brigade occupying the Fort was a pure intermittent, while in the detachment of the 6th Foot, living in temporary barracks in the lower level, in officers and men it assumed in every case the remittent type, passing in several cases into the continued fever, and ending in death. In the Kumaon and Nepaul hills we have already seen that in the low and enclosed valleys the fever was most severe and fatal, as we will hereafter see that at the more moderate elevations it would be milder, but higher still more prone to internal congestions, relapses, and prolonged and irregular exacerbations from exposure during the rains to greater alternations of temperature. In the valleys the very marked and sudden reduction of temperature at sundown would be a common exciting cause. A medical officer who had been in the habit of fishing in the rivers in the ravines about Almorah informed the writer that for a long time he suffered from fever, until he adopted the precaution of at once putting on an overcoat when the sun sank beneath the hills

above. In convalescents from remittent fever there is always more or less anæmia present, and a proneness to relapse from very slight exposure to chill or damp, or irregular living, the constitutional disposition determining the sequelæ. With a scorbutic taint there would be myalgia and an obstinate resistance to all ordinary or usually specific remedies until that taint was eradicated by change of place, diet, and surroundings, as many tropical invalids know from personal experience. In these hills, towards the close of the dry season, and before the rains have had time to advance to maturity the more palatable vegetable esculents, there is often a scarcity of the latter, and necessary restriction of the diet to a rather poor animal food and very indifferent potatoes—in themselves conditions predisposing to scurvy. Should the season be abnormal or the drought excessive, these conditions are intensified, and, as a natural consequence, the common result of a too restricted, monotonous, and non-nutritious diet, aided possibly by a previous malarial taint or the debility induced by malaria.

The following particulars were related to the writer by a young tea-planter on the Kossanie estate, when at Almorah in the autumn of 1882. He had been eight years on the hills, and always well until the end of September, when he was induced to accompany a friend who had come from Meerut to shoot along a hot valley through which a river flowed. Next day they continued a good deal in the sun in this same valley. He now felt unwell, contracted ague, commencing to shiver every evening the exact moment the sun descended below a hill near his residence. The attack lasted for twenty-one days, and he felt very weak afterwards; was well for a fortnight, when he had a relapse during some fourteen days, and only one short one since; was afterwards in good health, but could not stand the same exposure to chills or wettings which he could have done previously. Then his clothes were frequently drenched and dried upon him without apparently causing any ill effects. A cold wind now gave him a "tic" or "coryza."

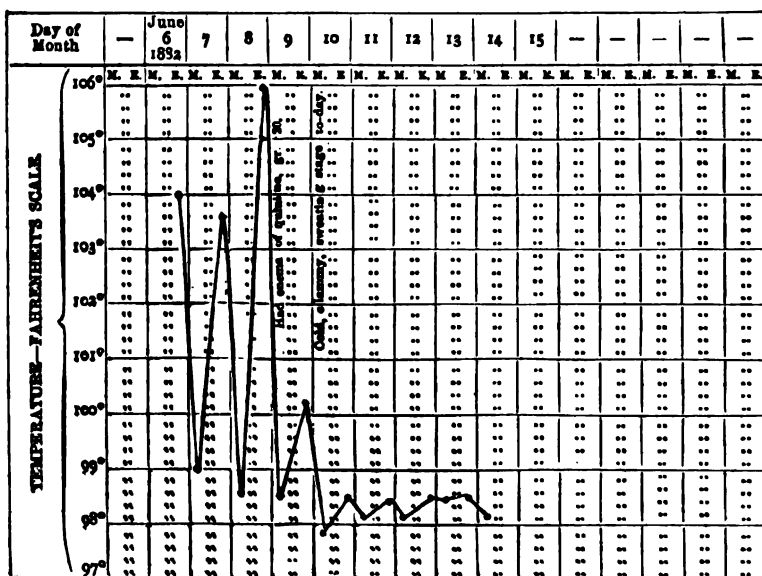
Shortly before leaving India I was member of a medical board at Chaubuttia, where we invalided a soldier who had come from a survey party in the Nepal Terai. He went there in January, lived in the jungle, and along the river. Ten days afterwards he was attacked with "fever and ague," followed by diarrhœa. He had all the appearance of an individual who suffered from malarial cachexia; was debilitated, and had that lemon-coloured hue of skin so often observed. Intermittent fever is undoubtedly the test *par*

*excellence* of the presence of malaria in a station or its vicinity; its presence proved, the ætiology of the more severe forms becomes less obscure; for the closest affinity of remittent fever is certainly with ague, into which it often passes when under treatment, and from which it is sometimes developed by the occurrence of a local inflammation or active congestion of the spleen, liver, or lung.

CASE I.—No. 1,369, Private Richard H., 30th Regiment, age twenty-three; service five years; landed in India 9th February, 1880; arrived in Ranikhet 26th April. Had not up to 22nd January, 1882, when he was discharged from hospital after five days' treatment for intermittent fever, left the hills. Early in June the weather was much disturbed by thunderstorms and heavy rain, chilly atmosphere alternating with very hot days. On the 7th he was re-admitted, suffering from ague of a marked quotidian type. Rigors, followed by rise of temperature on the 8th to 104°, followed by cold, clammy sweats; next day, 103·6°; on following rising to 106°. Was treated by diaphoretics and 20-grain enemata of quinine. His temperature chart is very characteristic:—

#### CHART OF TEMPERATURE (Case I.).

*Name, Private R. H.; Age, 22; Disease, Ague; Result, Recovery.*



CASE II.—No. 2,337, Private J. W. B., 30th Regiment, aged twenty-two; service, three years. On the march from Nynee Tal to Khyrna got a bad wetting; drank a good deal of water on the road. Khyrna

is situated in the bed of the Kossi river, and has a bad repute at certain seasons for fever, travellers then avoiding sleeping there when possible. Admitted on arrival, 3rd May, for gonorrhœa.

On 14th, at 9 30 a.m., had a marked paroxysm of ague, rigors, a long cold stage, followed by sweating.

15th.—Second attack, temperature rising to 101°.

16th.—Temperature normal.

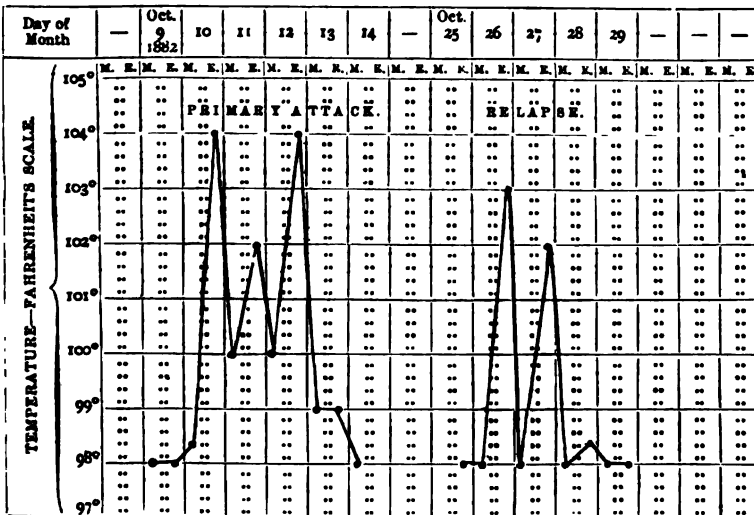
17th.—Temperature rose to 102°.

18th.—To 102·4°, followed by a very profuse sweating. Very weak after this attack. Treated by diaphoretics and large doses of quinine.

CASE III.—No. 2,364, Lance-corporal E. L., 30th Regiment, one of party of four who went to shoot in the woods near Ramnuggur. Admitted 9th October with ague. (See chart.) There were then in my civil dispensary several well-marked cases of jungle fever from these lowlands, with enlarged spleens, delirium at night, and marked remissions in the morning. Corporal L. came to hospital looking very unwell, with white tongue, congested eyes, lassitude, paroxysm of ague, preceded by great pain in back, chills, followed by sweating. Slight afternoon chills continued for some time during convalescence. Discharged 21st October. Had a marked relapse on 25th. Treated by quinine and diaphoretics.

#### CHART OF TEMPERATURE (Case III.).

Name, Lance-Corporal E. L.; Age, 24; Disease, Ague; Result, Recovery.



NOTE.—One of party of four men who went on a ten days' shooting excursion in Terai, near Ramnuggur.



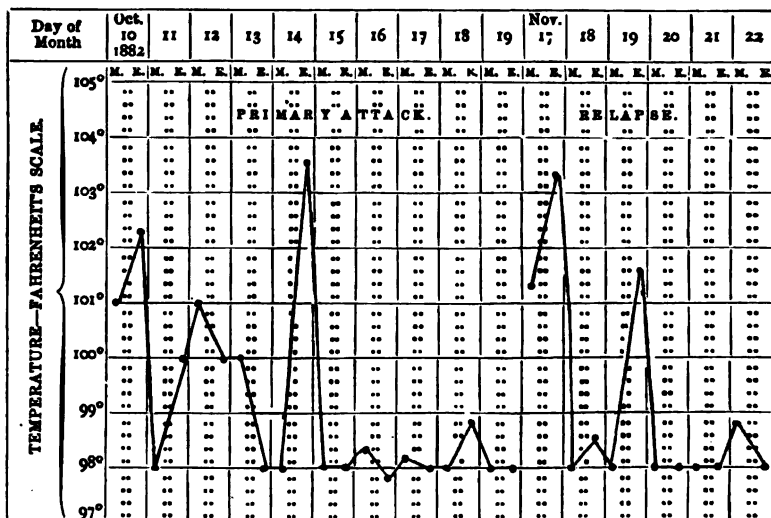
**CASE IV.**—No. 2,048, Private J. H., 30th Regiment, second of party of four who went on a ten days' shooting excursion in the Terai. (See chart). Returned ten days prior to admission. The party had been living in a small tent. Bowels loose; very pale; fainted at hospital. Had had the fever for two days. Tongue coated with a thick white fur. Felt giddy on rising in the morning during convalescence. Discharged on 29th October.

Readmitted in November. Had distinct paroxysms of ague on 17th and 19th. Had been at light duty in interval. Tongue coated; pulse quick and irritable; spleen somewhat enlarged, but reduced by the local application of red iodide of mercury. Treated by diaphoretics, citrate of iron and quinine.

The two remaining men appeared to have escaped the noxious influence.

#### CHART OF TEMPERATURE (Case IV.).

*Name, Private J. H.; Age, 23; Disease, Ague; Result, Recovery.*



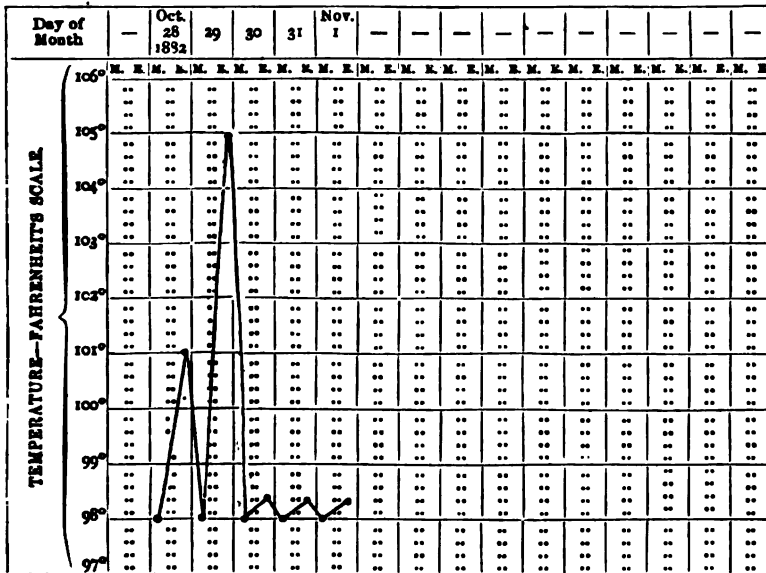
**NOTE.**—Second of party of four men who went on a ten days' shooting excursion in Terai, near Ramnuggur.

Another party of five men of the 30th Regiment went on pass, to shoot pig in a camp just above Ramnuggur on 7th October, and returned on 17th. They also lived in a small tent, pitched under a large tree. About ten days after their return three of them reported sick at hospital with intermittent fever—one being carried there in a dooley owing to weakness. A reference to the charts A and B will show how differently they were affected. Of the two others one (Private M.) had a slight aguish attack in barracks; temperature 101.4°. Private C. was affected simi-

larly. All were treated with quinine, but this last case did not yield with less than 30 grains by enema and 10 by the mouth three hours afterwards.

### CHART OF TEMPERATURE (A).

*Name, Private W. C.; Age, 36; Disease, Ague; Result, Recovery.*



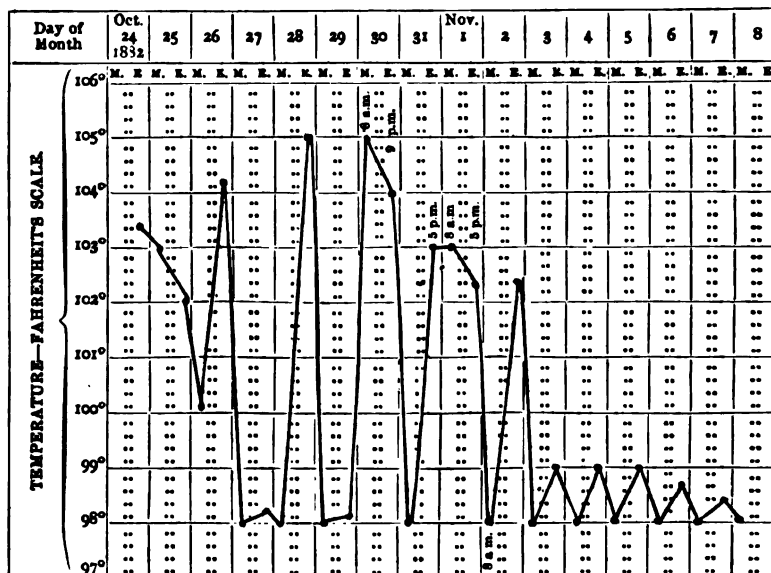
**NOTE**—Second of shooting party of five in jungle; brought in dooley to hospital; chills followed by first rise of temperature; second paroxysm very characteristic of ague.

**CASE V.**—The following case (No. 94, Private J. D., 30th Regiment) was contracted under somewhat different circumstances. The patient went about the 20th September, 1882, on a fishing excursion to a river running through a valley four miles distant from the rifle range at Rani-khet. Started at 8 a.m. and returned at 9 p.m. Was then very warm, but got wet in crossing and recrossing the stream. Felt very thirsty that night, drinking tea several times. Second day after had distinct shivering; "piled on all his clothes." This was followed by profuse, clammy sweats, which wet his bed and bedclothes thoroughly. Was ill every day for a week, when the fever left him. Remained well until the 6th October, the day after he had marched with his regiment some eight miles to a field firing parade. On his return was attacked with ague again—a distinct cold, hot, and sweating stage. Ten days subsequently (16th October) had another relapse, which commenced at noon, and continued every alternate day until the 20th, when he for the first

time reported sick at hospital with a well-marked tertian ague. (See chart.) This man landed in India 9th February, 1880, marched with his regiment to the hills, had no previous tropical service, and this was his first admission to hospital—a fine, strong-looking soldier.

### CHART OF TEMPERATURE (B).

*Name, Private C. D.; Age, 23; Disease, Ague; Result, Recovery.*



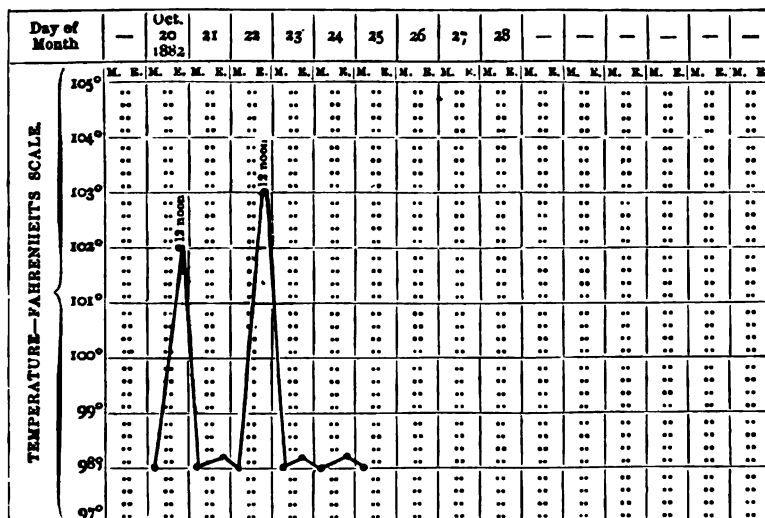
NOTE.—Third of a party of five shooting in jungle. Tongue white, bowels constipated, thirst, shivering, hot skin, headache; third and fourth paroxysm prolonged. Treated with large doses of quinine and diaphoretics; purgatives; last paroxysm followed by profuse sweating.

There had been a party of three, one other, an artilleryman of the details, had had ague about the same time, but did not report sick. Private D. was discharged on the 28th, there being no return after the second paroxysm. He was treated by 20-grain doses of quinine, diaphoretics, and liq. morphinæ at night. Here the patient was exposed only on one occasion, and only for a few hours, to the noxious influence. We have seen how persistent was the result, how easily a relapse was excited, and how quickly it was cured under appropriate treatment.

The foregoing cases appear to amply prove the presence of malaria in the highlands and village of Kumaon, and also illustrate the manner in which the endemic fever is commonly contracted.

## CHART OF TEMPERATURE (Case V.).

Name, Private J. D.; Age, 36; Disease, Ague; Result, Recovery.



NOTE.—Contracted in a valley five miles from Ranikhet. Tongue moist, with a thin white fur along dorsum; hot stage lasted two hours; "pains all over" and in forehead, followed by profuse sweating. 20-grain doses of quinine in intervals; diaphoretics;  $\pi$  xxv. liq. morphine at night.

Intermittent and remittent fevers may also occur for the first time in the person of individuals in whom the poison lay dormant while residing in the plains, the chill and damp of the rains acting as exciting causes. This is an interesting fact in the ætiology of malarial fever well proved by experience. It will be remembered by those who studied the history of the Gold Coast expedition of 1873–74 that many officers and men did not have their attacks until their return to the raw and cold of the English climate, and among those who had had primary attacks in Africa, in spite of the change of air, good food, and relaxation from duty, relapses occurred of such violence that the symptoms were in no way dissimilar to those which seized them on landing on the coast of Africa when under the direct influence of the malarious poison, while others suffered from ague, debility, or dysentery, and in the fatal cases which occurred the spleen was the organ chiefly affected, being large, soft, easily broken down, and of a dark purplish-claret colour. The liver was large, but the *intestines were healthy throughout their entire course*. My friend, Surgeon-Major Doig, had several similar

cases in Chaubuttia, 900 feet higher than Ranikhet, in the winter of 1880 among the men of the 40th Foot, most of whom had during a long residence in Lower Bengal absorbed the malaria of that humid region. Regarding one of them he wrote to me—"We have had had a little snow this morning, and prospect of more. We have lost a man this week. I have returned the death as remittent fever. He was in hospital with bronchitis, when four days before his death he was seized with severe rigors, followed by fever and acute inflammation of the spleen, which spread to the peritoneum and proved fatal. At the *post mortem* the spleen weighed 78 ounces; the upper part was exactly like a broken down blood-clot. The liver was large, weight 88 ounces, but pale and tough. There was general peritonitis. Bowels all healthy. The man had very bad remittent fever at Dumdum, and was left behind there when the regiment left." The sudden chill in a constitution debilitated by previous malarious fever was then here, as in the cases noted previously, the exciting cause. The similarity is striking.

With regard to altitude, we had then the opportunity of noticing the difference which 900 feet and the different constitution of the two corps made in the course of the symptoms. In the 30th, a younger regiment, the great majority of the men not long arrived from England, and with only a moiety having passed a hot weather in the plains, and quartered in the more equable and warmer station of Ranikhet, the cases of remittent fever were fewer, more amenable to treatment, relapses not so frequent, and the mortality very small; while in the higher and colder station of Chaubuttia, in a corps with older soldiers, longer resident in the plains, more debilitated by climate and malaria, the cases were far more numerous, less amenable to treatment, more frequently followed by relapse, and having a far higher mortality. In the one corps there was no invaliding for remittent fever or its sequelæ, while in the other, with only half the strength, there were several invalids from this cause or from the consequences of the fever, anæmia, general debility, or rheumatism (? scorbutic myalgia). Quinine, when given alone in moderate or fairly large doses, and not having its characteristic effect in arresting the course of these fevers, does not prove them to be non-malarial, for the system has oftentimes to be prepared for the reception and assimilation of the remedy. With a dry skin, sluggish or congested liver, or constipated bowels, and defective action of the kidneys, it will have no

action until these conditions are remedied by diaphoretics, diuretics, and small doses of sulphate of magnesia or other saline purgative; or it may be combined with chloride of ammonium or a salt of potash such as the citrate or chlorate, or, if there is great nervous exhaustion, with bromo-hydric acid and liquor morphiæ. A mixture of quinine, dilute sulphuric acid, sulphate of magnesia, and sweet spirit of nitre was a favourite remedy among the more experienced physicians who treated the malarial remittents of Western Africa. Again, large doses of sixty grains, given when there is the least tendency to a remission, will lower the temperature and modify the symptoms when smaller doses are quite useless. Of this fact I have noticed many examples. Should these various combinations fail, there will be probably some other specific taint, such as the scorbutic, coexisting with the malarial and counteracting the common therapeutical action of the remedy, or the stomach may be in such an irritable and congested state that the drug remains unabsorbed, indicating its introduction by hypodermic injection or enema. There is ample evidence on record to prove that malarial fevers have yielded to the latter mode of treatment when quinine failed entirely by the mouth. Again, in those cases where the malarial fever is ushered in with symptoms not dissimilar to an attack of acute rheumatism, salicylate of soda in combination with the quinine has to be tried before arriving at a positive diagnosis. Congestive remittents, following upon an excessive dose of the poison, or excited by direct solar exposure or a prolonged high temperature, are not, as a rule, cut short by quinine. In the first case the system is overwhelmed hopelessly by the poison, and in the latter the nervous system and blood appear to be so altered from the natural standard as to be not amenable to any therapeutical combination. If quinine, given with all the above precautions and reservations, fails in doubtful cases the disease is probably typhoid, or that severe form of continued fever not typhoid, but closely resembling it.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Injuries of the Spine and Spinal Cord.* By HERBERT W. PAGE, M.A., F.R.C.S., England. London: J. & A. Churchill, New Burlington-street. Pp. 374.

MR. PAGE is surgeon to a large English railway company, and as such has had a good deal of experience in cases of spinal injury. Seeing most of his cases in the interests of the company which employs him, he has naturally encountered a good many in which the prominent feature was sham, and he has therefore devoted himself to the task of finding a better reading of the typical symptoms which the supposed sufferers describe. Part of the book was written when he was a competitor for the Boylston Medical Prize of Harvard University, United States, and its merit is sufficiently attested by the fact that the prize was duly awarded to the author.

A good deal of the book is taken up with a discussion of Mr. Erichsen's views. That distinguished surgeon was the first to bring the subject of railway injuries before the profession in a systematic treatise. We think it unfortunate that Mr. Page has assumed a very *nisi prius* tone; and since Mr. Erichsen is probably chiefly engaged on the plaintiff's side, the book before us has very much of the character of a somewhat tart reply from the defendants. Having ourselves seen a good many cases of alleged railway injuries on behalf of railway companies, we can testify to the exaggeration and lying that so often characterise the story of the claimant. But, that being granted, there is no doubt that many cases in which the injury is apparently trivial present later on very grave symptoms, for which, if the company was responsible for the original hurt, the plaintiff ought to receive compensation. In spite of the tone of the book, however, we think Mr. Page has done most excellent work in calling attention to conditions which, assumed to be dangerous in their developments, are in truth but passing, and which, produced under other

circumstances than a shake in the train of a rich railway company, would attract very little notice indeed.

The author objects to the term "concussion of the spine," as used by Mr. Erichsen, on the ground that it is scientifically inaccurate. "We do not," says Holmes, "speak of concussion of the skull." What is really meant to be conveyed is concussion of the cord, and undoubtedly the phrase ought to be definite; but there is, to our mind, an unnecessary amount of paper wasted over the elucidation of this point. The real question is whether a man who has his whole body jarred in a collision may not receive such damage to his cord, in spite of its loose attachments and its protection, or to the nerves issuing from this structure, as to produce definite changes and progressive symptoms.

The chapter on the Common Spinal Injuries of Railway Collisions is particularly good, and, as an explanation of some of the symptoms which patients describe so glibly, will repay reading. Mr. Page calls attention to what is called the "traumatic lumbago" so often resulting in these cases and credited with alarming importance. In a collision an unconscious effort is made to hold the back rigid, "and we find, as a result of the violence and of the sudden resistance induced by 'setting' of the muscles and ligaments that the ligaments are stretched, and the muscular attachments are likewise strained in the dorso-lumbar and lumbo-sacral regions of the column." The ligamentous strain may occur in any one of the numerous joints of the spine in the jerks and jolts which accompany most collisions, and the pain, more commonly situated in the lumbar region alone, may thereupon affect other parts of the column.

Does the tenderness felt on pressure over one of the spinous or transverse processes indicate graver injury than is signified by the pain which is more common and more extended in its area? The author thinks not. It may be met with in simple strains from slight causes. Nor is it a dangerous symptom. If it is of any value at all, it is one rather to reassure us that we are dealing with a case of ligamentous strain. It is of little value as a diagnostic sign, because disease of the vertebræ may go to an extraordinary extent with little or no tenderness. Pain in the back in these cases is apt to be fallacious, and it is necessary to weigh well its true significance. Wilks regards the value of pain produced by percussion in cases of disease of the vertebral column as very small. "At the same time," he says, "a sensitiveness of the spine



is very common, but this generally implies a simple functional hyperæsthesia; so that I verily believe that, were you to test the value of this method of diagnosis by the rule of averages, you would find pain mostly absent in organic diseases of the cord and present in those persons who suffered merely from nervous excitability."

What risk is there of the supervention later on of symptoms of degeneration of the spinal cord? The author believes that secondary and remote degeneration of the spinal cord in cases where there is no distinct evidence of injury is very rare indeed:—"Molecular disturbance is not necessarily molecular disintegration or pathological change, and there is no evidence to show that molecular disturbance is in itself a grave condition or likely to have evil results, unless there should have been at the same time some well-marked pathological lesion such as might *post mortem* be discovered by the eye."

Under the head of neuromimetic disorders and malingering, Mr. Page discusses further phases of this most interesting subject. These are carefully done, as are all the other portions of the book. The whole work indeed throws a new light, from a competent authority, upon a subject of admitted difficulty. It would have been better had there been less asperity, and less of the character of a hostile review of Mr. Erichsen's book. If that surgeon has swung into one extreme in exaggerating the value of symptoms, Mr. Page has laid himself open to the charge of going to the opposite extreme and of underrating them. In this, as in other things, the truth lies midway, and at the hands of both surgeons we have received lessons which are full of importance.

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*Illustrations of Clinical Surgery.* By JONATHAN HUTCHINSON, F.R.S. Fasciculus XVI. London: J. & A. Churchill, New Burlington-street. 1884.

AFTER a long interval Mr. Hutchinson has issued the sixteenth fasciculus of his most interesting and valuable "Illustrations." The subjects treated are "the fungating form of rodent cancer" and various fractures of the femur. The letterpress is only sufficient to be explanatory. Two of the cases mentioned are specially noticeable. One is that in which one eyelid having been removed for rodent cancer, the disease appeared in the other eyelid two years later. The second is a case of fracture of the neck of the femur, in which the break occurred just within the capsule,

without any displacement whatever. The illustrations are fully up to their predecessors. We hope Mr. Hutchinson will be encouraged to continue the publication of a work which is so great an addition to the literature of clinical surgery.

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*The Roller Bandage.* By WILLIAM BARTON HOPKINS, M.D.  
Philadelphia: J. B. Lippincott & Co. 1884.

THIS little book is devoted to a demonstration of the different methods of applying the roller bandage. The directions are simply given, and 73 illustrations make matters plain for the student. These illustrations are not all admirable, and it would have been better had the drawings been diagrammatic rather than from photographs.

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*The Pathology and Treatment of Venereal Diseases.* By FREEMAN J. BUMSTEAD, M.D., LL.D.; and ROBERT W. TAYLOR, A.M., M.D. London: Henry Kimpton. 1883.

THE fifth edition of this work is now presented to the Profession by Dr. Taylor. The aim of the original author was to produce a treatise "on a level with our present knowledge," and with this object in view the author of the present edition has revised, modified, and considerably added to the text. The introductory chapter is devoted to the oft-told story of the doubtful origin of syphilis, its confusion with the local venereal diseases of the ancients, and its supposed introduction into Europe from America by Columbus. Interesting confirmation of this supposition is afforded by the investigations of Professor Joseph Jones, who has discovered syphilitic bones in the stone graves of Tennessee and Kentucky. Although the doctrine of the duality of venereal poison is upheld, yet their admixture and co-existence in the same chancre, or chancre, as the case may be, is admitted. In the chapter upon "Complicated Chancroid," a graphic description is given of the varieties in which these lesions may present themselves; and again, in the chapter upon the "Initial Lesion of Syphilis," descriptions are given not only of the ordinary indurated sore with which every one is familiar, but also of varieties, such as "Multiple Herpetiform Chancres," and other "Anomalous Appearances of the Initial Lesion of Syphilis," which can be familiar only to the specialist who has a large field of observation, but which are calculated to

puzzle and mislead ordinary practitioners seeing them for the first time. The chromo-lithographic illustrations with which the descriptions in the text are assisted, will give the unpractised eye of those who have not had an opportunity of seeing the varieties of venereal sores a very correct idea of most of them, and enable them to be recognised.

The book is not only an exhaustive compilation from those which have been written before it, but it contains much valuable original matter, which is the fruit of great labour and intelligent observation. The author, in the chapter upon "Treatment of Syphilis," speaks of "a new adjuvant" which he claims to have the honour of introducing to the profession; it is the liquid extract of erythroxyton coca. It is not as a specific for syphilis that Dr. Taylor advocates the use of this medicine, but as a tonic; he says "its power to invigorate the system, to improve nutrition and sustain life, is so great, that its use in syphilis, secondary to that of mercury and the iodide of potassium, is attended with results which no other agent now known to us possesses." He also claims for this remedy the power of replacing the stimulant action of alcohol, that it invigorates the system so that those who could not bear treatment by mercury can, under the influence of its powerful tonic properties, be safely submitted to a course of mercurial treatment. Certainly his advocacy, after, as he states, several years' experience of its value, ought to ensure it a trial in this country, where a pernicious form of syphilitic anæmia, occurring in persons of intemperate habits, often renders mercurial treatment inadmissible or injurious.

While we cannot endorse some of the opinions of Dr. Taylor—for example, that there is no more special virus in chancroidal pus than in ordinary pus—yet, as a whole, we admire his work as the most comprehensive and exhaustive treatise which has yet been written upon venereal diseases.

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*How to Arrest Infectious Diseases.* By EDGAR G. BARNES, M.D.,  
Lond. London: Churchill. 1883. Pp. 88.

DR. BARNES states that his little book is intended for the "busy practitioner," in order that he may have in a compact form trustworthy information respecting the way in which disinfectants should be used; he may also (if too busy, we suppose, to read it himself) place it in the hands of any intelligent non-medical man

as a guide to him in protecting his family from the ravages of infectious diseases. The chief part, therefore, of the little book is taken up with a description of various disinfectants and the modes of employing them. In one respect the information is too voluminous, for some of the substances described are useless or even dangerous. For example, the paragraphs on the use of bromine and of iodine are surely unnecessary, as we cannot think anyone would ever resort to expensive, irritating, and feeble processes, when far cheaper and more efficacious are available. Euchlorine, a mixture of chlorine and chlorous acid, obtained by dropping crystals of chlorate of potassium into strong hydrochloric acid, is not a safe domestic disinfectant, nor does it possess the slightest advantage over other chlorinated compounds. Chlorozone and pyridine are new but almost untried additions to the list of patents. Sporokton is an old friend under a new name; it is described as a strong solution of chloride of zinc saturated with sulphurous acid gas to such an extent that one pint of the liquid contains ten gallons of gas, which it gives off freely on exposure to the air. We believe that the manner in which disinfection is carried out is of far more importance than the choice of the agent used; and we fancy compounds rather embarrass the reader.

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#### RECENT WORKS ON DISEASES OF THE SKIN.

*Journal of Cutaneous and Venereal Diseases.* Vol. I. Edited by  
DRS. HENRY PIFFARD and PRINCE MORROW. New York:  
Wood & Co. 1882-1883.

THE study of dermatology in America may be said to start with the foundation of the New York Dermatological Society by the late Dr. Henry D. Bulkley, and within the last twelve years three periodicals have successively arisen in furtherance of this study. Shortly after the foundation of the Dermatological Society, *The American Journal of Syphilography and Dermatology* was established, and its quarterly publication was kept up with credit for four years. To it succeeded another quarterly—*The Archives of Dermatology*—under the leadership of Dr. L. Duncan Bulkley, and after an honourable and useful career of eight years it terminated in October, 1882. Simultaneously with its decease there appeared a new monthly—viz., the *Journal* which we now notice, and it promises to continue the good work done by its predecessors.

At the present time there are five journals devoted to cutaneous and venereal diseases, the only one in the English language being that under review.

From a general examination of the contents of the fifteen numbers which make up the first volume we find much that is of interest and of practical importance, and we can warmly recommend this new periodical to our readers, whether specialists or not. Some good engravings and excellent coloured plates enrich its pages; and we may instance the illustrations of tinea (trichophytosis) cruris, pigmented neoplasm of the skin, erythema diphtheriticum, leprosy, and tubercular syphilide. In No. 7 is a reprint of a lecture by Dr. Guibout, on the "Diagnosis of Skin Diseases," which well repays perusal.

*A Practical Treatise on Diseases of the Skin.* By JAMES NEVINS HYDE, A.M., M.D., Chicago. London: J. & A. Churchill. 1883. Pp. 572.

As the result of our examination of Dr. Hyde's book we have no hesitation in saying that it is a fair and skilful exposition of modern dermatology, and is a work deserving of attention from dermatologists. In respect of fulness of descriptive detail it can scarcely compare with Duhring's treatise, which is, perhaps, the best book in the English language upon the subject.

Dr. Hyde's discussion of the methods of treatment of the various skin affections strikes us as being very sensible and practical, the outcome of a well-used experience. He is bold enough to challenge the much-reputed virtues of arsenic in the treatment of eczema, and goes so far as to say:—"It (arsenic) is an uncertain remedy in all cutaneous diseases; it is, if possible, more uncertain in eczema, and has unquestionably aggravated more cases than it has relieved. Its value in chronic and persistent forms of the disease is attested by men of distinguished reputation, and upon such authority it may be conceded a position, among the internal remedies for the malady, of possible value. It has been my ill-fortune to observe so many obstinate forms of squamous and papular eczema aggravated by its employment, that I should consider an acquaintance with a dozen patients relieved by its use in a single year a circumstance suggestive of as much curiosity as congratulation."

There are 66 illustrative woodcuts, and we may direct attention to the figures of molluscum epitheliale, molluscum fibrosum, neuroma of the skin, and sarcoma of the skin.

*St. Thomas's Hospital Reports.* New Series. Edited by DR. SEYMOUR J. SHARKEY and MR. FRANCIS MASON. Vol. XII. London: J. & A. Churchill. 1883. Pp. 351.

DR. ORD calls attention to some clinical aspects of glycosuria as contra-distinguished from diabetes mellitus. He finds in his note-book records of twenty-two cases of glycosuria occurring in persons of fifty years of age and upwards, and not accompanied by any marked diuresis, but nevertheless persistent in some degree under all forms of treatment. It is associated with nerve disease, with gout, errors of diet, or albuminuria. He has noted the co-existence of angina pectoris in two or three instances. Mr. Le Gros Clark contributes "Some Records of Surgical Experience." We are glad to observe that these are to be continued in the next volume. Mr. Croft advocates the treatment of cancerous obstruction of the œsophagus by permanent catheterism.

A detail of the work done in the Throat department is a new feature in the Reports. Dr. Semon discusses several subjects of much practical interest. *Inter alia* he has tried salicylate of soda in a number of cases of acute tonsillitis, especially in those in which the tonsillar affection was ushered in by general rheumatoid symptoms; but in none of them was he able to report any marked influence exercised by the drug upon the local process. The vaunted utility of uvulotomy finds little favour in his eyes. He recognises only four positive indications calling for the operation:—1. Elongation to such a degree that the uvula during sleep is sucked into the larynx, producing attacks of suffocation; 2. Malignant disease starting from the uvula; 3. The hindrance offered by a very large uvula to the performance of delicate endolaryngeal operations; 4. The co-existence of a long thick uvula with a persistent feeling of irritation and cough when no other cause can be discovered. He believes that granular pharyngitis is a far more frequent cause of persistent irritation than a long uvula. In an experience of several hundred cases of tonsillotomy he has met with but one case of serious arterial hæmorrhage. This was due, not to any lesion of the small artery running in the faucial pillar, but probably to some enlarged branch of the tonsillar. Styptics were of no avail, but direct digital pressure controlled it. Not less interesting is the chapter on iodoform as a local remedy in laryngeal phthisis. Dr. Semon summarises his own experience by saying that regular applications of iodoform in powder to the

ulcerations of laryngeal phthisis produce cleansing, diminution of the surrounding oedematous infiltration, decrease of pain and soreness, and frequently considerable improvement of the dysphagia; but the ulcers do not heal. A grain of iodoform, mixed with an equal amount of boracic acid and one-sixth of a grain of morphia, applied by insufflation under the guidance of the laryngeal mirror, is the mode of employment recommended.

Mr. Pitts contributes a paper on "Hæmorrhage from the Internal Carotid Artery subsequent to Suppurative Tonsillitis," which deserves a record in medico-legal annals. Half an hour after a man was admitted to hospital an abscess in the tonsil burst, and some pus and blood escaped. Three days afterwards a sharp attack of hæmorrhage occurred, which gradually increased, so that (as no bleeding point could be detected) the left common carotid artery was ligatured. About thirty hours after the operation the patient lost, suddenly, about a pint of blood, and expired. The *post-mortem* examination revealed a small ulcerating cavity, extending from the left tonsil inwards. The inner aspect of the internal carotid was completely exposed; and, just opposite the tonsil, an ulcerated opening in the vessel (nearly as large as the nail of one's little finger) was found.

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*On Chronic Skin Diseases treated by the Waters of Aix-la-Chapelle.*

By DR. SCHUMACHER, Jr., Resident Physician, Aix-la-Chapelle.

A PAMPHLET by Dr. Schumacher has come under our notice which calls attention to the value of the Aix-la-Chapelle waters in certain chronic diseases of the skin. The author is a physician of culture, and his opinions and views are founded upon personal experience. They are, moreover, stated in a manner free from that interested partiality which disfigures some writings on the virtues of baths and mineral waters, and we propose to extract from his pamphlet such passages as appear of most practical interest.

The hot springs of Aix-la-Chapelle were already in use for bathing purposes in the time of the Romans. It was most probably the celebrated Sixth Legion, which had won the honourable title of "Legio victrix" by its glorious victories in Spain, that first erected splendid bathing-houses at the springs, known to the oldest authorities as "Aquaë," or "healing waters." The remains of these baths, built between 69 and 120 A.D., were dug out in 1878. Many ornaments and articles of feminine toilet were found in the

canals and bath-rooms, and have, together with other curiosities, been placed in the museum of the city. The newly discovered foundations are accessible to all who are interested in these relics of a by-gone age.

The Roman buildings at Aix-la-Chapelle were destroyed by the invading barbarians, whose countless hordes of warriors carried death and desolation to the very walls of the Eternal City. Six hundred years passed by before the first great German Emperor, Charlemagne, rebuilt the baths on the same site. It is said that he discovered the hot springs whilst hunting in the woods, which at that time covered the neighbourhood. The Emperor was in the habit of bathing with his whole court in the long "piscines" or common baths, according to a custom which continued to exist up to the end of the Middle Ages.

About 1756 the celebrated English doctor, C. Lucas, in his well-known work, entitled "An Essay on Waters," gave the highest praise to the improved contrivances for private baths at Aix-la-Chapelle; and these arrangements have not since been changed, except for further improvement.

The sulphur-springs at Aix-la-Chapelle have continued up to the present time well known and much used for their healing powers. These healing properties have been proved to exist by the experience of centuries, by the chemical composition of the water, and by their physiological effect on the system.

The water of the warm springs is very digestible. Its principal chemical ingredients are—sulphur, chloride of sodium, and carbonate of soda. The waters of the Kaiserquelle, at Aix-la-Chapelle, contain in every 10,000 grammes or about 10 litres (3 gallons):

Chloride of sodium - 26.1 grammes (nearly 7 drachms).

Carbonate of soda - 6.4 „ (1½ drachms).

Sulphurate of sodium - 0.1 „ (1½ grains)

In 10 litres (nearly 3 gallons) of gaseous elements

Sulphuretted hydrogen - 0.3 grammes (4½ grains.)

The springs, therefore, have the advantage of the united effects of sulphur with chloride of sodium and carbonate of soda, which is of great importance in the external and internal use of the waters. The heat of the springs rises as high as 131° Fahrenheit.

Chronic skin diseases form one of the chief classes of illness at Aix-la-Chapelle.

It is almost impossible to realise all that has been gained for medical science by the local treatment of skin diseases. But the



fact remains that for thousands of years the best doctors have pointed to bathing treatment, and more especially to sulphur baths, as the very best means of effecting a thorough cure in cases of local skin disease. "The steady growth of so many different mineral-water bathing-places, and the eloquent evidence of thousands of grateful patients cured at these baths, are the best proofs of their unfailing efficacy" (Röhrig).

Chronic skin diseases are to be treated at the mineral springs more or less as constitutional affections.

The skin, like every other organ, cannot escape the influence of disease for any considerable time, when the principal organs are in an unhealthy state and the system is upset. The connexion between these diseases still remains to be explained; experience can only prove it to exist.

Scrofula is often combined with "lichen scrofulosorum" and "lupus." In individuals whose health has been undermined by cachexia, we find acne cachecticorum. Chlorotic patients are subject to changes in the colour of the skin, pallor, seborrhœa, and effluvium capillitii. Rheumatism and gout form the foundation of lichen agrius (Willan); climatic or endemic influences, often of a malarial nature, which act by deteriorating the system generally, give rise to frambœsia in the West Indies, to sibbens in Scotland, and to elephantiasis. Diseases of several organs are also liable to produce symptoms of many skin diseases. Pigmentation, icterus, urticaria, pruritus cutaneus, eczema—often of great obstinacy—are the consequences of liver affections; and as a result of diseases of the uterus and ovaries we see the production of chloasma, acne rosacea, seborrhœa, and urticaria. Besides these morbid changes of internal organs of the body, skin diseases are often brought on by age, irregular living, and bad or unsuitable food. Finally, observation proves that diseases of the nervous system, more especially of the vasomotor nerves, are the agents, in several cases, leading to skin disease. We find this, according to the best authorities, in cases of herpes and pemphigus. In the genesis and prolongation of eczema, neurasthenia and functional nervous symptoms were constantly observed, and often played a very important part. These observations show beyond doubt that many skin diseases are of constitutional origin. A further indisputable proof of the fact is that several skin diseases are hereditary; the disease passing from the parents to one or to all of their children, or to their grandchildren. The frequent reappearance of these diseases in a patient

apparently thoroughly cured, is a still stronger proof of the correctness of this theory. Success is, therefore, chiefly to be sought in a combination of local and constitutional treatment at the baths; the latter being acknowledged to be particularly important.

In Aix-la-Chapelle, as regards the usual cases of illness, local treatment—which has been proved by experience and scientific research to be very important—is naturally not neglected; but on the other hand it is well known, that many patients in whom local measures have failed to effect a cure after many years have finally been thoroughly cured by using the hot baths, and submitting to the constitutional treatment, as practised in Aix-la-Chapelle.

In the treatment of these diseases it is of the utmost importance that the patient should reside in the neighbourhood of the baths during at least from four to six weeks, or, if possible, till every sign of disease has disappeared. Patients are required to remain a considerable time in the water—generally about an hour; if necessary, two baths a day may be taken. The temperature of these baths must not be too great, as otherwise patients are too easily fatigued; the age and constitution of individual patients must be taken into consideration. Baths of long duration are easily borne even by very young patients. In most cases ordinary baths of sulphur water produce the required results in skin diseases, but in some cases, where it is found necessary to strengthen and stimulate the action of the skin, warm sulphur-water douches are used. Hot sulphur steam-baths are of very great importance to those patients in whom the skin is greatly thickened, with a tendency to become scaly.

It is necessary to explain to patients who have suffered from skin disease for years that after being cured here the eruption may appear again; it is, therefore, prudent to repeat the treatment. This becomes necessary partly because the majority of patients, on their return home, resume their old manner of living, probably vitiating the blood and thus bringing about a return of the old illness. The results of the treatment are then very apparent in the mildness of the returning disease, over which it is possible to exercise full control. In many cases a full and final cure is possible, and to this end both doctor and patient must persevere.

The bathing-houses, eight in number, contain on the ground-floor excellent arrangements for ordinary baths, douches—the best in Europe—steam-baths, and sweating-rooms, and all have a spring where patients can drink the waters during bad weather. The

immense quantity of water and the number of baths (about one hundred and ten) enable several hundred patients to bathe every day. Separate private baths for ladies are set apart in some bathing-houses.

In Aix-la-Chapelle the treatment is carried on during the whole year; the bath-houses are always open and in use, for the mildness of the continental winters has gradually created a winter season; numbers of English, Swedes, and Russians are constantly visiting the town.

Many years of medical experience prove the advisability of a winter treatment for skin diseases.

If we examine more carefully the special cases in the group of skin diseases most frequently met with at Aix-la-Chapelle, we find that a good field for the operations of bathing treatment is offered by chronic eczema. To this class belong all those cases which seem to revive in spring and autumn, and also those which are not influenced by the seasons. Those diseases brought on by continued local ailment, or by the unhealthiness of any particular organ, belong also to this class; finally, also, those cases from which we can draw no conclusion as to their ætiology.

We learn here, that several forms of the catarrhal affection of the skin are benefited by the waters. Besides eczema papulosum, e. pustulosum, and e. rubrum (which is liable to produce ulcers), attention is particularly called to the final development of the different forms of eczema, to eczema squamosum. The itching attendant on these diseases is most satisfactorily lessened here. The skin lesions gradually become less in extent, the hard infiltrations disappear, and a normal condition of the epidermis is gradually arrived at. Many of the worst cases of eczema, which had spread over the upper and lower extremities of the patient, and would not admit of any local application, have finally yielded to the continual use of baths, and have been thoroughly cured.

We can also recommend the sulphur-water baths for pustular affections of the skin. This group is represented principally by acne, the consequence of limited inflammation of the follicles of the skin (acne disseminata). The best results are achieved in the treatment of acne scrofulosorum and acne cachecticorum; but sometimes the patient must reside near the baths for at least several months. The thick, scaly infiltrations, often so painful, gradually disappear, generally before suppuration sets in; at the same time the system is strengthened and the patient fully restored to health.

Psoriasis (lepra Willani) is met with here in all its stages. Local treatment has of late years worked wonders in curing psoriasis. But the more we know of this extremely obstinate, wide-spreading complaint, the more we are convinced of the good done by the baths, either with or without the aid of other medicines; and here more especially our attention is called to the connexions between local and general treatment at the warm springs.

We do not deny that internal medication is of importance after treatment at Aix-la-Chapelle. When the treatment here has removed all the diseased appearances on the skin, it is sometimes found advisable to resort to constitutional measures, giving such preparations as copper and arsenic at stated intervals for a year. By this means the tendency to a return of psoriasis is greatly lessened.

In the group of papular inflammations of the skin, in Aix-la-Chapelle, we find that prurigo is favourably influenced by the waters. We have on several occasions succeeded in producing good results in cases of this kind which, though mild, were well developed. The papular infiltrations disappeared and the itching was removed; excoriations of the skin and the swelling of the glands were gradually healed. Usually in these cases of prurigo there were signs of general debility, similar to those in furunculosis and acne cachecticorum, and both were favourably influenced by the treatment. In America and England this disease is reported as occurring very rarely; Dr. Tilbury Fox first described it. Still at the London International Medical Congress in 1881, several well-developed cases were exhibited, a fact casting serious doubt on the rarity of the disease.

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*Selections from the Works of the late J. Warburton Begbie, M.D., LL.D.* Edited by DYCE DUCKWORTH, M.D., Edin. London: The New Sydenham Society. 1882. Pp. 422.

THIS volume is the result of the Council of the New Sydenham Society having accepted a proposal from Dr. Dyce Duckworth to collect and edit such contributions of the late Dr. Warburton Begbie as were most illustrative of his clinical powers and of the influence which he exerted upon his contemporaries. Dr. Begbie was the distinguished son of an eminent father, and not only was he a great clinical teacher, but he was also one of those happy few who secure the devotion of their pupils by enthusiasm coupled with a charming manner. He was a man of wide culture and elegant

scholarship, and was endowed with broad and warm sympathies, and his reputation as a physician grew so rapidly that by the time he was forty years of age he was in large consulting practice. The essays in this volume number twenty-nine, of very various length and scope. All are admirably written, and bear the impress of a highly educated mind. Chronologically they range from 1852 to 1875, the last being the Address in Medicine (On Ancient and Modern Practice of Medicine), delivered at the forty-third Annual Meeting of the British Medical Association, Edinburgh, August, 1875. It may, however, be questioned if all of these papers were worth republishing—*e.g.*, that on the Use of Belladonna in Scarlatina, in which he demolishes the homœopathic doctrine of the prophylactic power of belladonna against scarlatina, is surely slaying a dead horse.

The most interesting and important essays are, perhaps, those on temporary albuminuria, vascular bronchocele, paracentesis thoracis, and on the therapeutic actions of muriate of lime (chloride of calcium). Dr. Begbie was a genuine believer in the use of remedies, and his faith in therapeutics was very great. In the opinion of his editor Dr. Begbie's "work in connexion with the whole subject of vascular bronchocele is, perhaps, his best, and, together with that achieved by his father on the same subject, almost completes the clinical conception of the malady which is held at the present moment."

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*Transactions of the College of Physicians of Philadelphia.* Third Series. Vol. VI. Philadelphia: Blakiston & Son. 1883. Pp. 451.

WE congratulate our Transatlantic brethren on the excellent work to which this volume testifies. Memoirs occupy much less, and original research much more, than in any of the past few years' issues. Amongst the papers we note one on "Abscess of the Brain," containing some interesting observations in cerebral thermometry. One case of cerebral abscess was associated with cancer in several other organs of the body, the second with chronic meningitis, the third with acute meningitis following facial erysipelas. Normally it has been found that the average temperatures of the stations on the left side of the head are—for the frontal  $65^{\circ}$ , for the parietal  $85^{\circ}$ , for the occipital  $82^{\circ}$ , higher than those of the corresponding stations on the right side. The surface temperatures of the head observed in the cases here reported by Dr. Eskridge present several

points of difference from the normal. The temperatures were from 2° to 4° higher than those obtained in the heads of healthy subjects, although the axillary temperatures taken at the same time were normal or subnormal. Those on the left side of the head exceeded those on the right by about .5°, which is nearly in accord with the normal difference. Dr. Keating details eight cases of malignant measles. These cases were all fatal. He found in the blood micrococci present (especially in the white corpuscles), apparently breaking up and destroying them. Out of eight other cases observed very shortly afterwards, in seven the symptoms were severe, but nevertheless typical of measles, and an examination of the blood revealed nothing abnormal. The eighth, who was taken ill at the same time as the others, showed from the onset a malignant tendency, and, on examining the blood, micrococci were seen. None, however, were noticed as having penetrated the corpuscles; those that were found were simply in the serum. This child recovered. The writer of the paper believes that alcohol, when given in large amounts, is the remedy most likely to check the progress of the parasite and arrest the process of destruction. Dr. Meigs, of the Pennsylvania Hospital, gives an instructive result of many observations made by his father and himself on sufferers from albuminuria. We are entirely of accord with him as to the difficulty of making a prognosis with any degree of exactitude in most cases of Bright's disease. His conclusions are—first, that in no ordinary uncomplicated case of Bright's disease should a prognosis of speedy death or even of incurable disease be given, for cases are related in which the disease was chronic, lasting over two years, and which ended in complete recovery; secondly, that dyspnoea taking the form of renal asthma is much more common than is usually supposed; thirdly, that Bright's disease as a cause of death is on the increase. Dr. Wilson records a rare phenomenon—a case of transposition of the viscera. The subject was aged twenty-one, a left-handed man, who died of purulent peritonitis. The heart occupied on the right side a position corresponding to that normally occupied on the left. The lungs were reversed, so were the liver and the spleen—in fact, the autopsy revealed a state of viscera identical with what has been described by the late R. W. Smith, and preserved (by cast) in the museum of the Richmond Hospital. An analysis of Infant Foods completes the Transactions of the year.

## PART III.

### HALF-YEARLY REPORTS.

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#### REPORT ON OBSTETRIC MEDICINE AND SURGERY.

By WILLIAM C. NEVILLE, M.A., M.D., Ch.M., and M.A.O., Univ. Dubl.; Fellow, Secretary of Obstetrical Section, and Member of General Council, Academy of Medicine in Ireland; late Assistant Physician, Coombe Hospital, Dublin.

[Concluded from page 158.]

#### III. PORRO'S OPERATION.\*

In the Report on the recent progress of obstetrics and gynaecology in the November number of this Journal, for 1880, Dr. Macan summarised the early history and explained the method of performing Porro's operation. It is not, therefore, now necessary to refer further to these questions, which are also treated of in all recent text-books upon obstetrics. Suffice it merely to say that Porro's operation consists essentially in the delivery of a child, which has at least reached viability, by Cæsarean section, followed by the removal of the ovaries and uterus by supravaginal amputation. Professor Porro himself wrote of the operation as "littero-ovarian amputation as a method of completing Cæsarean section." Professor Müller, of Berne, entitles it "the modern Cæsarean section" (*Die moderne Kaiserschnitt*), and it has also been variously called "Cæsarean hyster-oophorectomy," "Cæsarean ovaro-hysterectomy," &c.

Dr. Godson's paper, upon which this report is chiefly based, contains the report of a successful Porro's operation performed by himself, with remarks thereon, as well as a most elaborately prepared statistical record of all the Porro operations performed up to the time of his publishing it. He is certainly to be congratulated not only on the success of his case, but also upon the zeal and

\* Porro's Operation. By Clement Godson, M.D. *British Medical Journal*, January 26, 1884, &c.

industry which he must have unsparingly devoted to the tiresome task of compiling so useful a record as that which he has given to the profession. We have in his table an almost, if not an absolutely complete record of all the Porro operations performed up to a few months ago, comprising also such details of each case as are most likely to be of service in forming a judgment upon the various questions which have arisen in reference to the operation.

Porro's operation has been performed five times in Great Britain : by Professor A. Simpson (of Edinburgh), Dr. W. C. Grigg, Dr. Clement Godson, Dr. Galabin, and Dr. Heywood Smith, in the order named. Dr. Godson's was the only successful one of these five cases. The history of his patient runs briefly thus:—She was twenty-four years of age; in general configuration a dwarf, 4 feet 4½ inches in height, and having hands and feet not larger than those of a child aged nine. Her small physique appears to have been inherited both on her father's and mother's side. When aged four, she was run over by a dray in the street, and subsequently treated for about a year in Guy's Hospital for fracture of the pelvis. Suppuration took place, and Mr. Arthur Durham, under whose care she was, removed the pubic bone of one side, with other fragments, and the tuber ischii and portions of the bone from the other side also. Several pieces of bone had afterwards to be removed at various times during her stay in hospital, which she finally left fully recovered. She was twelve years old before commencing to walk on crutches. There was no rachitic deformity, but the anterior curve in the lumbar region was considerably increased. The sacrum appeared displaced backwards at its junction with the last lumbar vertebra, and the gluteal region was markedly prominent. The left hip-joint was ankylosed, the femur of that side making an angle of a little more than 90° with the trunk. The pelvic measurements were:—

Between the iliac spines,	-	-	-	-	-	5½ inches.
"    "    crests,	-	-	-	-	-	6½ "
External conjugate of Baudelocque,	-	-	-	-	-	4½ "
From lower border of symphysis to tip of coccyx,	-	-	-	-	-	3½ "
Bischiatic,	-	-	-	-	-	about 1 "
Conjugata vera,	-	-	-	-	-	" 1½ "

Pregnancy dated from a single coitus on March 9th, 1882, and labour was therefore expected about December 9th. The os uteri could not be felt or any foetal parts discovered per vaginam.



when Dr. Godson first examined the patient on November 20th. Externally palpation showed that the head was situated in the right iliac region, and the foetal heart was heard below and to the right of the umbilicus. She was removed to suitable lodgings, and the operation performed before labour set in on November 27th, Dr. Godson being assisted by Mr. Knowsley Thornton. Nitrous oxide and ether were the anæsthetics used. On exposing the uterus by an incision from just below the umbilicus to within two inches of the symphysis, its anterior surface was seen to present a very livid appearance, thus suggesting the probable anterior attachment of the placenta. Dr. Godson therefore made a very small transverse incision at the junction of the lower with the middle third of the uterus, and completed this part of the operation by tearing the womb open transversely to a sufficient extent. The tissues offered no resistance to this tearing, which was effected without the loss of much blood and without rupturing the membranes. The position of the child having been previously ascertained by palpation, it was then seized by the neck and extracted head foremost without difficulty. It cried vigorously after being splashed with some cold water, and the funis was then tied and divided. Kœberle's *serre-nœud* was then applied, so as to include both ovaries and tubes and to constrict the uterus at about the level of the internal os. Its wires having been tightened, the uterus (with the placenta still remaining in it) was amputated with scissors. The bleeding was very trifling, and the surface of the stump having been touched with solid perchloride of iron, it was transfixed by two strong guarded pins above the constricting wire, and fixed in the lower angle of the abdominal wound. For greater security a thick silk ligature was tightened round the stump below the pins, which, resting upon the abdomen, prevented the possibility of its slipping back into the abdomen. The abdominal and peritoneal wounds were united by a number of sutures above the pedicle and one below it, care being taken to draw them into close apposition around the stump. The operation was performed according to Listerian principles, and lasted (from its commencement to the replacing of the patient in bed) fifty-seven minutes.

During the subsequent history of the patient the temperature never rose above 100° F., nor her pulse above 94. On November 29th—two days after the operation—two severe eclamptic convulsions occurred, at less than an hour's interval, which were not repeated. Thenceforward convalescence may be said to have been

uninterrupted, and the woman left her lodgings completely cured on December 28th. Dr. Godson saw her on August 1st, 1883, when she seemed in perfect health. "The abdomen shows scarcely any scar, and no depression where the pedicle was placed."

Before passing on to the consideration of Dr. Godson's observations upon his own case and the statistical record which he has prepared, it may be well to point out two main modifications (which must afterwards be further alluded to) in the technique of the operation as originally performed. The first of these is that known as Müller's modification, which consists in bringing the uterus outside the body, and passing a provisional elastic tube (Esmarch's) around its base before opening it and extracting the child. Müller aimed at thus minimising the dangers of hæmorrhage from the uterine incision, and of the escape of blood and liquor amnii into the peritoneal cavity. The second modification consists in treating the pedicle intra-peritoneally after the manner now almost invariably followed in ovariectomies. This modification was first put in practice by Prof. Veit, of Bonn, in the case of a patient operated on in March, 1880, and a fortnight subsequently independently by Prof. Isaac Taylor, of New York.

Dr. Godson thus summarises the advantages claimed for Porro's operation over the classical Cæsarean section:—

"1. The uterus being removed, and its stump being outside, there is no danger of bleeding within the peritoneum, or of exudation of lochia as before through the incised uterine wall. At the time of the operation the risk is much less; for as soon as the cervix is constricted it ceases, and this may be very promptly done.

"2. Should hæmorrhage occur from the pedicle, being outside it is under control—an advantage which is, however, sacrificed by the intra-peritoneal method.

"3. The uterus and ovaries being removed, the dangers of a subsequent pregnancy are avoided."

Dr. Godson does not allude to certain circumstances which have been justly dwelt on as forming special indications for this operation, as compared with Cæsarean Section, in particular cases. Such are (1) the practical blocking up of the outlet for the lochial secretion by extreme atresia or constriction of the vagina, and (2) the existence at the time of operation of an exhausted and extensively injured, or perhaps already septicallly infected uterine musculature. The *raison d'être* for these indications is self-evident, but it must be acknowledged that in the latter class of cases the results given

by Porro's operation—even if better than those of the Cæsarean section—are still very bad. On the other hand, Porro's operation becomes impossible when the cause of obstruction lies in the presence of a large uterine tumour springing from the cervix, and interfering with the making of a stump.

Quite irrationally, as it seems to us, the operation has been condemned by some upon the grounds that it sterilises and unsexes the patient. Sterilisation is bad, but death is worse; and an operation which involves the former is at least preferable to one which is much more likely to be followed by the latter. Moreover, it must appear right to put a stop once for all to such hazardous attempts at reproduction as alone can be made by the women who become subjects of this or any alternative operation.

Porro's operation has been performed 138 times, with 61 maternal recoveries and 77 deaths. The mortality amounts therefore to about 56·7. Twenty-six children were stillborn, 14 of which, however, were certainly dead before the operation, and several others probably so.

We pass now to the remarks made by Dr. Godson upon the several steps of the operation:—

1. He advises, in the first place, that a catheter should be passed to empty the bladder and determine its exact position. The necessity for adopting such a preliminary precaution is obvious.

2. *Incision through the Abdominal Walls.*—Müller's modification is condemned, on the grounds that to bring the uterus out of the abdomen requires a longer abdominal incision than is otherwise necessary. Dr. Godson thinks that the risk of hæmorrhage can otherwise be sufficiently provided against by skilful manipulation, and he would only employ Müller's method should the fœtus be putrid at the time of operation, as in Müller's own first case. He points out that in some cases this method was tried, but relinquished in consequence of the difficulty experienced in getting the uterus out through the incision.

We are not prepared, on the evidence before us, to accept this limitation of Müller's method to those cases only in which the ovum is putrid. Where the womb is only of moderate, or below the normal size, the advantages claimed for it are at least sufficient to compensate for the disadvantages of a slightly longer incision. Porro's operation has been performed according to this method in 40 cases. Of these 19 mothers recovered—2 out of 10 in which the patient's condition was unfavourable, and 17 out of 30 in which

it was favourable. Among the latter three deaths followed the intra-peritoneal treatment of the pedicle; so that we have 17 mothers saved out of 27 operations performed with the extra-peritoneal treatment of the pedicle. Ninety-nine patients have been operated on according to the original Porro method, with 42 recoveries, so that from a fair number of cases upon which to found an opinion, the balance of results is clearly in favour of Müller's proposal, so far as the mother's safety is in question. But Müller's method has elsewhere been objected to on account of its supposed injurious influence on the foetus. It has been urged that the elastic ligature applied so as to prevent hæmorrhage during the uterine incision, before the child was extracted, would lead in some cases to its asphyxiation. And in three cases (41, 52, and 123), it would appear to have possibly had this effect. This result might be avoided by not tightening the ligature, unless found necessary, until the child was delivered, but it is difficult to understand how the child could under any circumstances be so rapidly asphyxiated. In further support of this method it is worthy of notice that it is adopted by Braun v. Fernwald, of Vienna; Breisky, of Prague; and Fehling, of Stuttgart, who between them have operated on 20 patients, with only 5 deaths.

3. *Incision into Uterus*.—Dr. Godson rejects the current idea that the *locale* of the uterine souffle affords any grounds for fixing the area of placental attachment. As in the case recorded, so in others, he has been quite unable to hear any bruit, though the placenta was proved to have an anterior attachment, and *vice versa*. He recommends the method followed in his case of tearing the uterine tissues transversely, just above the level of the internal os, on the grounds that the wound in this position gapes more readily than elsewhere, is more apt to be out of the way of the placenta, and is within easy reach of the child's head. These reasons are no doubt valid, and the suggestion is a good one.

4. *Extraction of the Child* by the neck is to be preferred to that by the feet, as the uterus has sometimes contracted tightly around the aftercoming head.

5. *Management of the Placenta*.—The removal of the placenta before amputating the uterus wastes time and only adds to the danger of hæmorrhage.

6. *Management of the Pedicle*.—Thus far in the history of the operation the intra-peritoneal treatment of the pedicle has been attended with unfortunate results, 3 women only recovering out

of 14 in which it was adopted. In the face of these results it will require considerable hardihood to make further trial of this method, which was the outcome of the great success obtained by dropping the pedicle after ovariectomy. There is, in truth, but little analogy between the latter and the thick, disintegrating muscular stump left after the amputation of the gravid uterus.

Various methods of treating the pedicle extra-peritoneally have been tried in 125 cases, with 58 recoveries and 67 deaths—i. e., successfully in 46.4 per cent. of cases. The most usual practice has been to surround the pedicle with some such constrictor as Cintrat's, Koeberle's *serre-nœud*, or Chassaignac's *ecraseur*, fixing it in the lower angle of the wound, and applying the dressings over all. As the stump shrinks the constrictor can be tightened. It is certainly right to prevent the slipping back of the stump into the abdomen by transfixing it with a couple of pins, as was done in Dr. Godson's case. Otherwise vomiting may result in the tearing away of the stump from the constrictor, and its retreat into the abdominal cavity, as occurred in a case of Chiari's. The stump has also been ligatured with metal, silk, or india-rubber, and then stitched to the lower angle of the uterine wound.

For extra security a strong silk ligature ought to be used, in addition to the constrictor and transfixion pins.

7. *Drainage*.—Drainage tubes from Douglas's pouch through the vagina and through the abdominal wound have been employed in some cases. Dr. Godson doubts whether they are likely to be of service, unless septic symptoms arise, when they could readily be introduced as considered advisable. He insists upon Listerian details and the careful toilette of the peritoneum as in ovariectomies. In conclusion, Dr. Godson argues that were the operation accepted as one of selection, its mortality would prove much less than hitherto—an argument which of course is even more applicable to the classical operation. He shows that in favourable cases, where the pedicle was treated externally, and where the operation was uncomplicated by any avoidable accident, the mortality has been only about 1 in 3. But, after all, an operation must be judged by its gross results, and it cannot be denied that Porro's operation has had all the advantages that the most careful and skilful surgeons, aided by all the recent advances in abdominal surgery, could give to it. In this respect its statistics have as a whole the advantage of those of the old Cæsarean section, though attempts have not been few of late to show that the latter might give as good

results if performed with a corresponding amount of knowledge and skill.

One advantage Porro's operation certainly possesses—it can be performed before labour sets in, and therefore purely as an operation of selection, adequate preparations being made for its performance when the patient comes under observation at a sufficiently early date. Neither of the rival operations—the Cæsarean section or Thomas's laparo-elytrotomy—can be performed before labour has set in, and even advanced somewhat. But a study of the statistics of the Porro operation provided by Dr. Godson shows that it has been distinctly most successful when so performed. Thus we find from the table before us that this operation has been performed in 27 cases before the advent of labour. Two (10 and 102) of these were performed solely in the interests of the child, the mother being in each case in *extremis*. Why in such cases the Porro was preferred to the simple Cæsarean section is difficult to understand. But there remain 25 cases, out of which 16 mothers recovered, and 22 offspring were born alive. Thus the mortality of the Porro operation performed before the commencement of labour amounts only to 36 per cent., or a little over 1 in 3, even allowing for accidents and the unfavourable condition noted as regards a few of the patients. It is a remarkable fact also that of 8 Porro-Müller cases operated on before the beginning of labour only 1 died, and this single death occurred from shock and exhaustion in the case of a patient (133), whose condition was very unfavourable from the presence of albuminuria and nephritis. Breisky and Carl Braun v. Fernwald adopt this method, the success of which in such a fair number of cases is significant as pointing to the advisability of an early (eight months) performance of Porro-Müller operation whenever possible.

Following Dr. Godson, we have been able to state the results obtained up to the present by Porro's operation, but we would be unable to indicate with any precision its value as compared with the improved Cæsarean section or with Thomas's laparo-elytrotomy. We possess as yet no adequate statistical record of the results given by these competing operations, the last named of which seems to have received insufficient attention at the hands of continental authorities, whose experiences of greatly contracted pelves are larger than ours. Upon scanty data the advocates of each rival operation have, indeed, pleaded ingeniously that its value should be estimated by a consideration of the results obtained under

favourable conditions—a species of argument which we must be scrupulous to reject. We have no justification for comparing selected statistics of one operation with the general statistics of another. Patients must be accepted and treated as they come, favourable or unfavourable. We should not aim towards putting one operation upon a pedestal by itself, but rather towards forming a just estimate of their several merits under all the given conditions of any individual case. We must compare the results obtained by one operation with the results obtained under like conditions by its alternatives, and for such a comparison we have not as yet any sufficiently extended and reliable body of evidence. Any conclusions which may now be drawn from the evidence in our possession must be regarded as tentative rather than dogmatic—guesses at truth. But it is at least likely that the several operations—supposing some of them to be called for—will be found to have their special indications and contra-indications in a thorough comprehension of all the circumstances of a case, and it is towards the discovery and definition of these that future efforts must be directed.

The following tables are taken from Dr. Godson's paper:—

TABLE I., *showing the number of Cases in each Country, with Results.*

Country	No. of Cases	Result to Mother		Result to Child		Mortality per cent. of Mothers
		Recovered	Died	Living	Stillborn	
*Italy -	58	28	30	45	9	56·6
*Austria -	30	18	12	29	2	40
Germany -	21	6	15	15	6	71·43
France -	12	5	7	8	4	58·3
Great Britain -	5	1	4	4	1	80
America -	4	1	3	3	1	75
Belgium -	4	2	2	4	—	50
Switzerland -	2	2	—	1	1	—
Spain -	1	—	1	—	1	100
Russia -	1	—	1	1	—	100
Holland -	1	1	—	1	—	—
	134	59	75	111	25	55·97

\* Italy and Austria have each a case of twins, born living.

TABLE II., showing the number of Operations in each Year, with Result to Mother.

	Total	Recovered	Died	Mortality per cent. of Mothers
1876 - - -	1	1	-	-
1877 - - -	7	1	6	85·7
1878 - - -	15	7	8	53·3
1879 - - -	17	10	7	41·2
1880 - - -	32	12	20	62·5
1881 - - -	21	8	13	60
1882 - - -	24	10	14	56·5
1883 (8 months) -	17	10	7	35·7
	134	59	75	55·97

TABLE III., showing Indication for Operation.

Rickets - - -	-	-	-	-	88
Malacosteon - - -	-	-	-	-	25
Dwarf pelvis - - -	-	-	-	-	4
Roberts's pelvis - - -	-	-	-	-	1
Pelvis deformed from accident - - -	-	-	-	-	1
Arthritis deformans - - -	-	-	-	-	1
Osteo-sarcoma of pelvis - - -	-	-	-	-	1
Fibroid of uterus - - -	-	-	-	-	5
Cancer of cervix - - -	-	-	-	-	2
Atresia vaginæ - - -	-	-	-	-	2
Partial rupture of uterus - - -	-	-	-	-	1
In extremis - - -	-	-	-	-	3
Total - - -	-	-	-	-	134

TABLE IV., showing Causes of Death.

Septic peritonitis - - -	-	-	-	-	22
Septicæmia - - -	-	-	-	-	9
Peritonitis - - -	-	-	-	-	14
Shock - - -	-	-	-	-	16
Tetanus - - -	-	-	-	-	3
Secondary hæmorrhage - - -	-	-	-	-	2
Pneumonia and bronchitis (pre-existing) - - -	-	-	-	-	2
Hæmorrhage from pedicle (primary) - - -	-	-	-	-	1
Strangulation of intestine - - -	-	-	-	-	1
Embolism (following phlegmasia dolens) - - -	-	-	-	-	1
Loss of blood and carbolic acid poisoning - - -	-	-	-	-	1
Retraction of pedicle - - -	-	-	-	-	1
Anæmia - - -	-	-	-	-	1
Cerebral anæmia - - -	-	-	-	-	1
Total - - -	-	-	-	-	75



**TABLE V.,** *showing number of Cases in which Pedicle was dropped in, and those in which it was kept out, with result to Mother.*

		No. of Cases	Recovered	Died
Intraperitoneal	-	13	3	10
Extraperitoneal	-	121	57	64
		<hr/> 134	<hr/> 60	<hr/> 74

Dr. Godson's paper concludes with three additional tables, giving the results of Porro's method applied—(II.) during pregnancy, but before the foetus was viable; (III.) after removal of a foetus from the abdominal cavity, into which it had escaped through a ruptured uterus; and (IV.) certain cases omitted from Table I. for reasons assigned.

Table II. contains 5 cases in which Porro's method was adopted between the fourth and sixth months of pregnancies complicated by uterine fibro-myomata. Three of these patients recovered, and two died. One of the deaths may be credited to the adoption of the intra-peritoneal method, and the other to the patient's condition at the time of operation, exhausted by a labour which had already continued for five days.

Table III. contains 6 unsuccessful cases, in one only of which the patient's condition is reported to have been favourable; in the others the rupture of the uterus and escape of the child into the peritoneal cavity had left the patients in almost hopeless conditions, varying from "incipient peritonitis" to "miserably bad."

Table IV. records 4 cases, excluded from Table I. because (1) the operation was not premeditated and completed as a Porro operation; (2 and 3) it was performed on account of the retention of a putrid foetus in one horn of a bifid uterus; and (4) in which the operation was performed, and the uterus removed, under the belief that it was a tubo-ovarian pregnancy at the eighth month. The error was only subsequently discovered. Only one (3) of these four cases proved successful, in which the operation was performed five months after the full term of pregnancy, and one horn of a bifid uterus was removed.

PART IV.  
MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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ACADEMY OF MEDICINE IN IRELAND.

President—J. T. BANKS, M.D.  
General Secretary—W. THOMSON, M.D.

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OBSTETRICAL SECTION.

President—G. H. KIDD, M.D.  
Sectional Secretary—WILLIAM C. NEVILLE, M.D.

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*Friday, December 21, 1883.*

The PRESIDENT in the Chair.

*Specimen of Cystocele.*

DR. DOYLE exhibited a specimen of cystocele, the first he had made an accurate *post-mortem* dissection of, removed with the surrounding parts from a subject in the Carmichael College dissecting room. The pathological changes were well seen. The vaginal orifice was filled up by a pouch-like protrusion of the anterior vaginal wall, including the base of the bladder. On opening the latter viscus the pouch forming part of the cystocele was found to contain about an ounce and a half of urine, and to communicate with the general bladder cavity by means of a circular opening with a diameter of nearly an inch. The interior of this pouch showed evidences of cystitis. The external meatus was very patent and drawn upwards, and the internal orifice of the urethra opened into the bladder about an inch and a half from the margin of the pouch.

*Case of Salpingo-Oöphorectomy for Pyo-Salpinx.*

DR. A. HORNE read a communication on a case of salpingo-oöphorectomy for pyo-salpinx. Having referred to the recent advances in abdominal surgery, the writer said he brought this subject forward for a twofold object—first, to direct attention to some points in the diagnosis of diseases affecting the Fallopian tubes; secondly, to elicit the opinion of

the members on the advisability or not of Tait's operation. The views enunciated by Mr. Lawson Tait are now so well known, and have been so frequently criticised, that he (Dr. Horne) did not propose to consider them in an analytical manner; but as lately he had an opportunity of being present when Mr. Tait operated for tubal dropsy on a lady who had been for a considerable time under his care, he simply wished to report the case, and would be glad to hear any discussion on the subject.

Mrs. N., aged twenty-nine, mother of two children, youngest five years of age. About four years ago, when residing in a very cold climate, she was attacked with severe pelvic inflammation, and has never been well since. When she first came under his care she was very thin and anæmic, wore an anxious countenance, pulse rapid, and evening rise of temperature. She complained of almost incessant pain in the back, inability to stand or walk about; reflex symptoms, such as sickness of stomach, neuralgia chiefly affecting the left side of the body. Menstruation was regular as to time, profuse, the bearing-down pains so severe that morphia was administered hypodermically for a considerable time. When menstruation ceased, a copious flow "of gushes of hot water," as she described it, came away at intervals. On examination, the uterus was tender to the touch, retroflexed, and firmly fixed. There was a sense of thickening all round the uterus, and exquisite tenderness in the ovarian regions. The sound passed to the depth of  $3\frac{1}{2}$  inches. The treatment adopted was at first simply palliative—the cervix was punctured; hot water douche and, after some time, carbolic acid applied to the fundus. Her general health improved under this treatment, and the pain lessened. She returned home. Soon afterwards all her old symptoms returned, more aggravated than formerly, so that she became a regular invalid. She implored to have some operation performed, as her life was misery to her.

Mr. Tait operated on October 17th, and removed both ovaries and tubes, and found the former filled with small cysts, the latter distended with serum. The adhesions were found to be very considerable, in the breaking down of which there was a copious hæmorrhage, which was checked by sponge pressure. The patient only lived sixteen hours. Unfortunately there was no *post mortem*, so it would be only idle to speculate as to the cause of death.

DR. ATTHILL had seen a good deal of the patient alluded to by Dr. Horne. The lady had been more or less under his care for many weeks, but had only derived temporary benefit from local treatment. Her sufferings continued, however, to be extreme, and when on a visit to some friends in Birmingham she had consulted Mr. Lawson Tait, who diagnosed pyo-salpinx, and recommended operation. He (Dr. Atthill) and Dr. Horne agreed upon consultation in the advice given by Mr. Tait. Unfortunately the operation had resulted fatally, Mr. Tait assuring him

that it was his first fatal result in a case of the kind. He had been struck by the small length of the incision made by Mr. Tait in this instance—one only two inches long, through which he could only introduce two fingers into the abdominal cavity. He should himself prefer to operate with a longer incision, which would not require so much tearing of old adhesions in order to free the Fallopian tubes and bring them to the mouth of the wound. Death had, he believed, resulted from internal hæmorrhage, for effectually preventing the chances of which a larger incision would give much greater opportunities. In cases of pyo-salpinx the operation was, no doubt, amply warranted, but the difficulty consisted mainly in diagnosing the existence of this condition. Mr. Tait had told him that for diagnosis he relied mainly upon the patient's history. The local physical signs were by no means certain. Hydro-salpinx was a much more common condition, and did not seem to justify, in most cases, the risks of the operation.

DR. PUREFOY regarded the diagnosis as the question of most difficulty. In a patient at present under his care, both symptoms and physical signs came on shortly after marriage, but he was uncertain whether they were attributable to the disease under consideration.

DR. NEVILLE said that the conditions known as hydro-salpinx and pyo-salpinx had been long since described and figured. Mr. Tait deserved immense credit not only for drawing fresh attention to the subject, showing how frequent these conditions really were, but specially for the clear proofs he had given that they could be cured by operation. The brilliant results of recent abdominal surgery had encouraged Mr. Tait to formulate as a fundamental rule that in every case of abdominal or pelvic disease in which the health or life was endangered, with the exception only of malignant disease, an exploration of the abdomen should be made. This recommendation demanded very serious consideration. No doubt Mr. Tait acted on it in many cases of doubtful diagnosis. In his work on Ovarian Disease he had not told them in what proportion of the 24 cases of hydro-salpinx and 20 of pyo-salpinx there recorded he had made an absolute diagnosis of the condition before operating, how often had he expected and not found them, and how often had he found them unexpectedly. The long-standing history of pelvic inflammation with menstrual exacerbations, the increasing menorrhagia, the tenderness of the vaginal roof, and the existence of a sausage-like tumour to one or other side of the uterus, were among the symptoms and signs mainly relied on. Unfortunately the amount of uterine fixation and pelvic hardening in these cases largely interfered with the value of the results which bimanual examination would otherwise give. According to Mr. Tait the Fallopian tubes rather than the ovaries dominated menstruation. Apart from other reasons for not accepting this conclusion, he (Dr. Neville) rejected it because the destruction of

structure in these cases of pyo-salpinx was so great as to entail a corresponding loss of function. Amenorrhœa rather than menorrhagia should be expected if the tubes really possessed the function attributed to them by Mr. Tait.

*Specimens of Pyo-Salpinx.*

DR. MACAN exhibited two specimens of pyo-salpinx removed by Mr. Tait, whose operation for their removal he looked upon as one of the greatest of recent advances in abdominal surgery. He had seen Mr. Tait operate on six patients, from one of whom the tubes exhibited had been removed. Mr. Tait made a very small abdominal incision—only an inch and a half long—through which he introduced a couple of fingers, groped about for the dilated tubes, separating adhesions where necessary, and then drawing them through the opening. In one case his previous ideas of antisepticism had been shocked by seeing pus well up through the incision in consequence of the rupture of one of the tubes. Mr. Tait assured him, however, that this accident was not, in his experience, a serious one. After the operation a drainage tube was inserted, and the woman had recovered perfectly well. Mr. Tait never employed any special form of antiseptic, but took the most scrupulous care as to cleanliness, which, combined with his great skill and experience as an operator, conduced to his successes. In future he (Dr. Macan) would certainly open the abdomen in cases where he had good grounds for thinking that the Fallopian tubes were diseased and disorganised. An exact diagnosis of the existing disease was not necessarily required to justify the opening of the abdomen in these or other cases.

DR. KIDD (President) would hesitate to open the abdomen merely in order to see what disease, if any, existed. He agreed with Dr. Neville that it was very desirable to know in what proportion of Mr. Tait's cases a correct diagnosis had been made before the operation, as well as the number of times in which the abdomen had been opened without finding the expected conditions. But in properly selected cases he did not doubt that the operation was a very useful one. If the diagnosis were at all a certain one he would not hesitate to perform Tait's operation, but he could not acquiesce in the tentative opening of the abdomen.

DR. HORNE briefly replied; and

The Section then adjourned.

SURGICAL SECTION.

President—WILLIAM IRELAND WHEELER, M.D., President R.C.S.I.

Sectional Secretary—WILLIAM STOKES, F.R.C.S.I.

*Friday, January 11, 1884.*

The PRESIDENT in the Chair.

*Living Specimens.*

The PRESIDENT.—(1) A young girl, aged eighteen, after removal of enormously hypertrophied breasts; the largest weighed 20 lbs.; (2) excision of knee in a boy, aged eleven, for caries; (3) child a year after hare-lip operation by exhibitor's method. MR. STOKES.—Case showing result of excision of the upper jaw for fibro-sarcomatous tumour, originating probably in the antrum. MR. LAMBERT H. ORMSBY.—Case of excision of knee-joint. DR. ARTHUR H. BENSON.—Primary lupus conjunctivæ.

*Specimens Exhibited by Card.*

The PRESIDENT.—Vesical calculi removed by lateral lithotomy. MR. STOKES.—(1) Amputation at hip-joint; parts removed on account of a rapidly growing sarcomatous tumour on inside of thigh; (2) cast of the thigh, showing size and position of the tumour; (3) multilocular ovarian cyst recently removed from a patient, aged seventeen. MR. LAMBERT H. ORMSBY.—Amputation of the thigh (upper third) for large sarcomatous tumour of thigh. DR. J. HAWTREY BENSON.—Viscera of a woman who died of purpura hæmorrhagica.

*The Radical Cure of Hernia.*

MR. KENDAL FRANKS read a paper on the radical cure of hernia by the method of dissection, the name which has aptly been applied to it in Dublin. The only two methods which seemed to him to give promise of extensive application in the future were:—(1) suture of the abdominal openings without removal or ligature of the sac; and (2) suture of the abdominal openings after excision of the sac. The first of these operations was applied to recent hernia, before the sac had had time to become enlarged and thickened. The method consisted essentially in cutting down on the tumour, carefully exposing the sac, which should be returned into the abdomen, and then drawing together the openings by means of two or three sutures of stout silver wire, which should be left permanently in position. He advised that the skin should be drawn slightly upwards before the first incision was made, as by that means the skin would not be directly over the wires. Thus union by first intention was promoted,

and the permanent retention of the silver wire assisted. Three cases were related in which this method was employed. Case I.—Medical student, aged seventeen, presented a direct inguinal hernia of the right side, which had suddenly made its appearance after a long run of six miles a few days before. The operation was performed on April 1, 1882. The wound healed by first intention, and the dressings were discontinued on the eleventh day. He wore a light truss for sixteen months, but since August last had given it up. He had had no return of the hernia, and never experienced any trouble from the wires, though within a year after the operation he won a four miles' bicycle race. Case II.—A man, aged twenty-four, of intemperate habits, suffered from an oblique inguinal hernia of the right side, the result of a fall off a car. The operation was performed 3rd July, 1882, but owing to the excitable restlessness of the patient it was found impossible to keep the wound aseptic, and a fortnight later it was necessary to remove the wire sutures. The wound healed by granulation, and the patient left hospital without any tumour. Subsequently, however, the hernia returned, and though it was reduced in size, it descended somewhat into the scrotum. The patient could not be induced to wear a truss. Case III.—A gentleman, aged twenty-four, had suffered for two or three years from a small oblique inguinal hernia of the right side. As it was increasing in size, he was operated on on May 1, 1883, two silver sutures being employed. Two dressings only were applied, the wound being completely cicatrised before the eleventh day. He went out driving on the twelfth day, and during the summer used to bathe without a truss. He had not since had any return of the hernia, and there was no cough impulse. The second method had a wider scope, and was applicable even to cases of complication, which would have rendered any other operation impossible. In the case of a man aged fifty, the subject of a large direct inguinal hernia of the left side, measuring  $6\frac{1}{2}$  inches in the longitudinal and 3 inches in the transverse diameter, the operation, which was performed Feb. 1, 1883, showed that the thickened sac was adherent in its whole length to the spermatic cord, which was spread out in a thin layer over its posterior surface. The sac was cut across about an inch below the deeper opening in the abdominal wall, which readily admitted the tips of three fingers. Three stout silver sutures were passed through the structure, forming the external and internal openings, including the peritoneum on both sides, and by drawing them firmly together and twisting the ends the openings were completely closed. As much of the sac as it was possible to dissect away from the cord was removed. The wound healed by first intention, and the patient made a good recovery, in spite of an hæmatocele which occurred on the second day, as a result of the patient's walking about the ward on the night after the operation. When last seen, on April 7 there was no sign of the hernia and no cough impulse.

MR. W. THORNLEY STOKER said there were two distinct classes of cases—the class in which operation was compulsory where strangulation existed, and the class where operation was a matter of election to promote the patient's convenience rather than save his life. In nearly all cases of operation for femoral hernia a permanent cure had been effected; but in large inguinal ruptures a radical cure was not so frequent, and in such case the peritoneum should be sutured. In the second class of cases he advocated Woods' operation. He did not think it mattered much whether the pillars of the ring were drawn together or not. A cure was effected by the inflammation exciting the exudation of coagulum and lymph, which drew the parts together, thereby closing the opening as with a cork. He protested against leaving in the wire suture where the ring was sutured in inguinal hernia as most unscientific and unsurgeonlike, and a possible source of future trouble.

The PRESIDENT mentioned the result of nine cases in which he had operated by different methods. In a case of inguinal hernia on the left side he exposed the neck of the sac; he then drew it down and applied a ligature, divided the neck and removed the sac below the ligature. This case was successful when seen two years afterwards. He performed a similar operation in the case of a female suffering from a small inguinal hernia in the centre and above Poupart's ligament, which became strangulated, and she was perfectly cured, having been seen five years afterwards. In a femoral hernia on the left side in a female aged eighteen, he opened the sac, pulled down, excised and closed the edges, and the result eighteen months afterwards was most satisfactory. He adopted the dissection method in other cases, but without improving the hernia. In cases where the canal was greatly distended by a large hernia it would be almost impossible to have a radical cure follow any radical measure, and the most likely was by excision of the sac.

MR. M'ARDLE observed that it was almost impossible to bring the edges sufficiently close together to keep behind the sac, and that the irritation of the veins was likely to produce phlebitis.

Having regard to the lateness of the hour, the further discussion was, on the motion of Mr. ORMSBY, seconded by Mr. M'ARDLE, adjourned to a special meeting.

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*Adjourned Meeting, Tuesday, January 22, 1884.*

The PRESIDENT in the Chair.

*The Radical Cure of Hernia.*

MR. ORMSBY, who had moved the adjournment of the discussion on the radical cure of hernia, opened the debate. Many of the present operations were, with few exceptions, old operations revived under new names. Mr. Stokes' procedure was bold and somewhat heroic; but with the aid



of antiseptics and a complete regard to the details of Listerism operations in abdominal surgery might be performed with the greatest impunity. Having unsuccessfully attempted to cure by the radical method, following the plans suggested by Wützer, Wood, and Gerdy, he himself devised a plan eighteen months ago, and carried it out successfully in the case of a young man, aged 26, who suffered from oblique inguinal hernia (reducible). The patient was placed on the operating table, and an anæsthetic having been administered, the hernia was reduced and the skin and cellular tissue of the scrotum invaginated and pushed up with the finger as high as possible through the external abdominal ring into the inguinal canal. Then a flat needle with handle attached, armed with a stout piece of silk ligature, was passed along the finger, fixed in the inguinal canal and made to pierce upwards and outwards until it passed through the anterior wall of the canal, so that the eye of the needle was apparent through the skin. The end of the ligature having been caught and secured, the needle was withdrawn. The other end of the same silk ligature was then inserted into the needle, which was passed up along the finger, still fixed in the inguinal canal, and passed through the anterior abdominal wall as before. The two ends of the ligature were then drawn up and tightened, and a small piece of bougie, about two inches long, placed between the two ends of ligature, which were tightened and tied firmly across the bougie close to the point where they emerged from the skin. A glass rod having been placed in a solution of liq. ammoniæ was passed into the invaginated canal so as to abrade the surface and excite adhesive inflammation or ulceration, and thus finally obliterate the canal. Lastly a hare-lip pin or acupressure needle was passed deeply through the tissues, transverse to the inguinal canal, at a point midway between the external abdominal ring and the position of the ligature, and tied over the bougie. Care must be taken not to pass the needle behind but immediately in front of the cord. A ligature was then placed over the two ends of the pin or needle, compressing firmly the intervening tissue, the pin or needle to remain until it ulcerated its way out. The ligature over the bougie was also allowed to ulcerate its way out. In Mr. Franks' cases he would prefer to use chromicised gut instead of silver wire, which he would, on no account, leave embedded in the abdominal wall lest trouble might ensue.

MR. CORLEY was of opinion that the direct operation by dissection was better in theory, and more likely to succeed in practice, than Wood's. It appeared to him that Gerdy's, Wood's, and such like operations were blindfold or ostrich surgery. There could be no doubt that in strangulated hernia the operation ought to be the radical one. Thinking over why some cases are successful and others not, he remembered that Lawrence, in his book on ruptures published in 1838, had remarked that one of the predisposing causes was an elongated condition of the mesentery and a lax condition of the peritoneum; and the same author detailed a

number of methods for the radical cure, one of the earliest and mildest operative procedures being incision—i.e., dividing the integuments and opening the sac after the integuments had been replaced, and then dressing the wound so that it should heal by granulation. That was, practically speaking, the operation by dissection. The point to be considered in connexion with the radical cure was how far interference was justifiable.

MR. HAYES mentioned that he had, twelve years ago, performed Wood's operation, with satisfactory result, in the case of a female who suffered from inguinal hernia which could not be adequately supported by a truss. She afterwards married, bore three children, and was seen ten years afterwards, perfectly free from danger of hernial protrusion. In the case of a youth he performed the same operation, but the boy had to wear a truss. An operation was employed in America to effect the radical cure by the injection of some irritating fluid within the inguinal canal and round the abdominal rings; and Dr. Warren had introduced the procedure at Guy's Hospital, operating upon a case of Mr. Bryant's, which did well. Mr. Bryant wrote that the man wore a truss afterwards, and six months later the hernia had not come down. He did not, however, perform the operation himself, as it seemed a mere matter of chance where the injected fluid went, and he preferred the operation by dissection.

MR. THOMSON said the question always to be determined before undertaking the operation of election was, what was the risk to the patient—was it justifiable to subject the patient to a risk, whatever it might be, by cutting down upon the hernia, or cutting away the sac with portion of the peritoneum, when perhaps he could get on satisfactorily by the use of a well-adjusted truss? But there was the preliminary question whether the patient, especially if in the lower walks of life, would not run a greater risk of strangulation of the hernia and death, than by an operation performed under favourable conditions? His impression was that where the case was prepared properly, and in all respects favourable for operation, the patient would have a better chance of life by the operation to relieve him of his hernia. As to the material to be used in stitching the pillars of the ring, he operated on a case of enormous scrotal hernia of twenty-five years' standing, without stitching the ring, there being a fair stump that acted as a plug for the opening, and the result was satisfactory. The result of his experience of children was that he would not use chromicised catgut to ligature the pillars of the ring. He objected to catgut and preferred wire or silk.

DR. WARREN was certain that the operation by dissection would be *par excellence* the operation of the future. He saw no objection to leaving in the wire suture.

DR. BALL said he proposed carrying out an addition to the operation by

dissection, in a case he had under treatment in Sir Patrick Dun's Hospital—namely, by torsion of the sac, so that portion of the neck of the sac in the inguinal canal would be occluded.

MR. O'GRADY called attention to an accident that befel him in an operation, several years ago, on a young fellow. He had made an incision in the skin, invaginating the superficial tissues underneath and sewing these and the pillars of the ring together. Nothing untoward attracted attention at the time of the operation; but, after some days, the wound suppurated, large quantities of urine were discharged from it, and the child died. It was obvious the needle had gone through the bladder. To obviate a similar result in all future cases he emptied the bladder. Mr. Thomson's argument in favour of operative procedure was brought home to himself on two occasions recently, when he was telegraphed for and his visit countermanded.

DR. FOY, MR. NIXON, and DR. ASHE, having taken part in the discussion, the authors of the papers respectively replied.

MR. STOKES said a surgeon would not be justified in sacrificing the testicle until he was satisfied that its function was destroyed. He had determined, undeterred by the discussion, to use metallic sutures in his next case. He denied that Wood's operation was haphazard.

MR. BARTON said the question whether invagination ought to be superseded by the plan of direct closure of the ring would be decided by the future record of operations. He would continue to employ metallic sutures taking care as to their being safely placed.

MR. FRANKS referred to Buchanan's method of treating children by bandaging them to a St. Andrew's cross, as very successful. In operative procedure, the open had an enormous advantage over the closed, the surgeon being able to see everything he did. He did not agree with Mr. Thornley Stoker as to the exudation of lymph sufficing to approximate the rings. It could not be so efficacious as the additional obstruction afforded by the wire, the objections to which were only theoretical.

The Section adjourned.

## PATHOLOGICAL SECTION.

President—A. H. CORLEY, M.D.

Sectional Secretary—E. H. BENNETT, M.D.

Friday, February 1, 1884.

The PRESIDENT in the Chair.

*Spontaneous Rupture of the Femoral Artery.*

The PRESIDENT detailed the history of a case in which rupture of the femoral artery had been the cause of death, and he exhibited the illustrative specimen. On the evening of December 20, 1883, A. B., aged fifty-six, a labourer, an inmate of the North Dublin Union Workhouse, was observed to be limping, and on being questioned complained of pain in the thigh, which was seen to be swollen. He was examined by Dr. R. Kenny the same evening, and rupture of the femoral artery was diagnosed, but the swelling had increased to such a degree and the signs of collapse were so marked that surgical interference was out of the question. There was no attempt at rallying, and he died next morning. A *post-mortem* examination was made under very unfavourable circumstances. All that could be done was to examine the limb and remove the diseased artery. There was enormous swelling extending from Poupart's ligament to the knee, and obstruction to venous return had produced considerable cedema of the leg. A quantity of blood, partly fluid and partly coagulated, roughly estimated at nearly two quarts, was found diffused under the fascia lata. An examination of the artery showed a fusiform thickening of about three-quarters of an inch in greatest diameter and three inches long, extending from the apex of Scarpa's angle into Hunter's canal, and an opening somewhat funnel-shaped was seen on the anterior aspect of the vessel, the coats being unequally destroyed. The artery was pervious both above and below the rent, but for the whole extent of the dilatation was occupied by a soft reddened clot. On slitting up the vessel it was perceived that there were three slight vascular dilatations existing in the fusiform portion of the artery, and that it was the highest of those that gave way. Although the history was necessarily so meagre it seemed evident that some obstruction to the current through the superficial femoral must have been of considerable duration, as the trunks of the profunda femoris and its branches were all considerably enlarged.

*Elephantiasis of the Scrotum.*

The SECRETARY exhibited, for Dr. W. H. HART, of Sierra Leone, an example of elephantiasis of the scrotum removed by him from a negro.

chief, aged fifty-six. In its shrunken condition after preservation in strong spirit the tumour weighed 14 lbs. 5 ozs.; weighed immediately after removal it was 31 lbs. The patient was in fair health, but affected by pityriasis. He had no fistula or urinary trouble, and had been tapped for hydrocele. On his admission no fluctuation could be detected in the tumour. He spoke no English, and his history was learned with difficulty. The tumour had been growing for ten years. His youngest son is eighteen years old. He had come down from the country for operation, being willing to take any risk. On March 28, 1883, Dr. Hart operated antiseptically and with Esmarch's bandage. Both spermatic cords were ligatured laterally, and a mesial flap saved. The testes were removed. Five veins were tied on removal of the Esmarch band. Considerable shock followed the operation, but the temperature on reaction rose only to 101.2°. On April 3rd the temperature, &c., were normal. On April 20th he was discharged with only a very small portion of the surface of the penis being as yet uncicatrised. The examination of the tumour showed a vast hypertrophy of all the structures of the scrotum, amongst which the testes were, after a patient search, found without serous envelope, the tunica vaginalis being obliterated, but the glands appeared healthy.

*Two Cases of Epithelioma from Local Irritation.*

DR. BALL showed two specimens of epithelioma. The first was from the front of the scrotum of a man aged forty, who had worked as a distiller of crude carbolic acid from tar for nine years previous to admission to Sir P. Dun's Hospital. The largest tumour was 2 inches long and 1½ inches broad, and beside it was a smaller wart, to which was adherent a well-marked horn. These growths were removed, and two years subsequently another small tumour was removed from the side of the scrotum. This was not connected with the cicatrix, and the author considered that it was attributable rather to a continuance of the original irritation than to an infection of the tissues by the previous growth. The glands in the groin, which were somewhat enlarged and hard before the first operation, had decreased markedly after the removal of the scrotal disease. A microscopical examination, which was made by Mr. Abraham, showed the appearances of ordinary epithelioma. Inquiries were made as to the health of the other operatives of the works where this man was employed. One man was seen with a large number of small epitheliomatous warts over the body, and Dr. Ball was informed that two men who recently worked there had horns, followed by open sores, on the face, but he was unable to trace these cases. As only sixteen men were employed, it would appear that the fumes given off in the destructive distillation of tar produce an irritation peculiarly liable to originate epithelioma of a chronic form, and in all respects similar to the

chimney-sweep's cancer, as described by Pott. The second case was from the nose and upper lip of a man aged forty, who had suffered from lupus of the face and nose for many years. He had been under treatment by Dr. Walter Smith for lupus, and was transferred to Dr. Ball's care for removal of the tumour. There was a fuugating mass of nearly black colour and great vascularity involving the tip of the nose, the alas the septum, and extending down into the upper lip. The submaxillary glands were not enlarged. The patient positively stated that this growth had commenced only three months previously. It was removed freely; but when the patient was seen three months after the operation, a number of glands, evidently carcinomatous, were to be felt deep in the submaxillary space, the cicatrix appearing quite healthy. The intense malignity of this case formed a marked contrast with the former, and Dr. Ball suggested as an explanation of this fact the great vascularity of the tissues induced by the lupus before the commencement of the carcinoma. Mr. Abraham reported the case as distinctly one, of epithelioma. In the deeper portions were to be found a very large number of small round cells, as usually found in lupus. The author alluded to a recent communication made to the Berlin Medical Society by Dr. Lewin on carcinoma developing on a basis of lupus, in which he reviewed the published cases of this condition, stated to number about twenty.

*Note on Tumour of the Nose.*

MR. ABRAHAM communicated a note on the tumour of the nose discussed by Dr. Ball. The deeper parts of the sections were chiefly made up of a more or less round-celled growth, much infiltrated with other small darkly-staining cells and nuclei. The texture was often loose and cedematous, and the lymph channels and spaces were well marked. Some of the latter contained finely granular and occasionally fibrous coagula. Protoplasmic masses were also to be sometimes found in various parts of the tissue. Towards the surface of the growth the larger cell-elements could be traced into prolongations from the epidermis, and in this situation numerous epithelial cell-nests were developed.

*Fracture of the Upper Extremity of the Humerus.*

DR. E. H. BENNETT exhibited an example of fracture of the upper extremity of the humerus, which was, in his opinion, consecutive to dislocation. Having referred to his communication on this subject made at the Cambridge meeting of the British Medical Association, and to the paper by Mr. Eve published in the "*Medico-Chirurgical Transactions*," he expressed his opinion that this new example agreed with the five specimens already described by him in its general characters, the head of the bone being only slightly differently placed. It was united by ligaments to the scapula and to the humerus. It projected into the axilla

beneath the vessels, and had pierced the subscapular muscle at its lower border. It retained a great part of the subscapular attachment—i.e., of the lesser tumuli of the humerus attached to it. The long head of the biceps was united to the bone in the fibrous tissue between the fragments. The specimen unfortunately was without life-history.

The Section adjourned.

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#### SUB-SECTION OF STATE MEDICINE.

President—THOMAS W. GRIMSHAW, M.A., M.D.

Secretary—STEWART WOODHOUSE, M.D.

*Thursday, February 14, 1884.*

The PRESIDENT in the Chair.

DR. DUFFEY acted as Secretary in the absence of Dr. Woodhouse.

##### *The Presidential Address.*

The PRESIDENT delivered an Address reviewing the Parliamentary work of the past year conversant with public health and social questions, and giving his views on pending measures of a kindred nature. This Address appeared in the number of this Journal for March, page 198.

On the motion of DR. CAMERON, seconded by DR. J. W. MOORE, a vote of thanks to the President for his Address was passed by acclamation.

##### *State Control for Chronic Inebriates.*

DR. H. C. TWEEDY read a paper on State Control for Chronic Inebriates—a question which had been steadily gaining ground since it was first mooted in 1855. The subject, he said, was beset with difficulties, there being in the minds of many a deeply-rooted prejudice against any measures that would interfere with the liberty of the subject, or afford unprincipled persons an opportunity of putting troublesome relatives out of the way. In answer to the first objection it was urged that the rights of individuals should occupy a secondary place to the peace and well-being of the community. Dipsomania was a form of insanity, as evidenced by the utter absence of moral sense, self-control, and self-respect, while duplicity and cunning characterised the diseased. The process of self-destruction was slow but sure, and practically might be considered as a species of suicide. In answer to the second objection, he submitted there was no greater danger of unjust detention for the inebriate than for the lunatic. It was exceedingly improbable that two medical men of integrity would lend themselves as accomplices to such a fraud. Having sketched the history of the movement from its origin down to the Habitual Drunkards' Act, 1879, he summarised the three

reports of the Inspectors of Retreats for 1880-1-2, showing that since the passing of the Act only three licensed under its provisions had been opened, and of these one was now closed, while the number of patients admitted in the three years was 52 for the whole of the United Kingdom. The weak points in the Act were:—(1) Its purely permissive character, inebriates having, under its provisions, to give the necessary permission for their own detention. (2) The absence of any provision for the detention of paupers. The tariff in the existing institutions being three to four guineas a week each patient, and in the Dalrymple House £1 11s. 6d., Poor Law Guardians declined to contribute on the ground that their duty was to provide for the relief of the poor and not for their moral improvement. (3) The limitation of the Act to ten years, and the exclusion of the proprietors of lunatic asylums from obtaining licenses to receive patients under the Act, thereby placing an effectual barrier to private enterprise in founding retreats. An Act partly permissive and partly compulsory, would be more likely than the present to effect good, as many patients would voluntarily submit to treatment if the threat of compulsion were held over them *in terrorem*. Unnecessary publicity would be avoided by the appointment of a Committee, consisting of the nearest-of-kin, two physicians, and a magistrate with summary jurisdiction. Early treatment, so essential for cure, could thus be secured as well as by three convictions for drunkenness within six months, as proposed by the late Dr. Dalrymple. Detention should be "until cured," or for a period of at least twelve months.

DR. DUFFEY said nobody was more cognisant of the defects of the Act referred to than the Member for Glasgow himself who had introduced it in the House of Commons. Unfortunately in its passage through the House of Lords it had been considerably emasculated. The real defect in the Act was its limitation to ten years; for it would be absurd to suppose anyone would spend money in starting an institution on the probability of the measure being renewed by Parliament. That was why Dr. Cameron and others had started the Dalrymple Home. If such "Homes" could be placed under the same management as existing institutions for lunatics, they would probably be sufficiently numerous throughout the kingdom.

DR. HENRY KENNEDY remarked that in the results reported from America he did not hear of any cases that were really cured, and he invited explanation as to whether or not there had been any absolute cures after a year's confinement. The association of inebriates with the inmates of a general lunatic asylum would have a prejudicial effect, as people would not go into a place where there were lunatics. Medical men in practice knew that the number addicted to drink was exceedingly great, and it was lamentable to see persons likely to be benefited allowed to follow their own vicious instincts. He had seen men recover, but in



no case a woman who had fallen into this degrading vice. The subject of treatment was surrounded with considerable difficulty.

DR. CAMERON agreed that every facility should be given for the reclamation of the habitual drunkard, but there had been a little exaggeration of the results of habitual drinking. Dr. Tweedy had represented one authority as stating that 75 per cent. of the crime committed by the prisoners in a certain gaol was due to intemperance. No doubt it often happened that drunkards were thieves, and robbers, and murderers, but it was simply a coincidence that a man who was a robber, a burglar, or a murderer, should also be a drunkard. That 75 per cent. of the persons committed to prison drank was highly probable; but it was equally probable that 75 per cent. of the persons not committed to prison drank too. Were it not so how could the public houses be kept? With regard to the numerous plans proposed for the cure of intemperance he did not think the voluntary system would have the desired result.

The PRESIDENT, in confirmation of Dr. Duffey's remarks, said the most important provisions of the Bill were destroyed, some, no doubt, in the House of Commons, but the principal in the House of Lords, and its failure was mainly due to the limited period of its operation. As pointed out, nobody would put money into a concern that would last only ten years. The great success of some of the institutions in America was due to the fact that compulsory and voluntary seclusion were combined. Those who did not choose to go in ran the chance of being put in by their people. As a Member of the Commission on Prison Dietary, he visited a great number of prisons in Ireland, and he was astonished at the number of persons confined for crimes which had been produced directly or indirectly through drink. Touching the question of compulsory confinement for drunken habits, he saw in a gaol in the North of Ireland a woman who was in for the 235th time merely for drunkenness. She was a "bail prisoner"—that is, imprisoned in default of finding bail for good behaviour. Instead of imposing the smaller penalties involved on conviction for drunkenness, this was the side-wind adopted by the Belfast magistrates for keeping drunkards under control. The woman in question was a lunatic, and ought to be treated as such. She herself said she was sure to get drunk when she went out, and her great desire was to stay in prison. Though not under a sentence compelling her to work, she worked as a matter of taste and kept herself neat and tidy. It was an outrageous state of the law that she should be treated as a criminal when she was really a lunatic. Having given an example of a dipsomaniac in the upper ranks of life, he said unless means were taken to deal with the disease the number of dipsomaniacs would steadily increase—believing, as he did, in hereditary dipsomania.

DR. TWEEDY, in reply, said he had not alluded to the voluntary system

as a defect, but he meant to convey that the voluntary system, unbacked by any system of compulsion, was a radical defect in the Act. Of course the limitation of the operation of the Act to ten years was a great objection. It was desirable to have retreats for dipsomaniacs, and he advocated the utilisation of lunatic asylums, on the principle of using existing means until better were provided. Dr. Kennedy had rightly concluded that the number of cures in America was inconsiderable. In his own experience of individuals with this form of insanity he saw no permanent cure, except where very early treatment was adopted; but there were no means of keeping dipsomaniacs under control for a proper period. Even supposing they were not perfectly cured, it would be important to get dipsomaniacs into an establishment where they would be improved. He agreed with Dr. Cameron that the individuals included in the 75 per cent. were guilty of a great number of other crimes besides drunkenness. In reference to the retreat at Kent and the surreptitious introduction there of drink, Mr. Hoffman, in his second report in 1881, had mentioned that public houses in the vicinity of retreats did not cease to give serious trouble to licensees whose establishments were without sufficiently extensive grounds to confine the inmates within bounds, or where they had not a trustworthy staff to prevent the introduction of drink.

The Sub-Section then adjourned.

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### MEDICAL SECTION.

President—WILLIAM MOORE, M.D., President K.Q.C.P.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

*Friday, February 15, 1884.*

The Registrar-General (DR. GRIMSHAW) in the Chair.

#### *Spinal Cord Disease.*

DR. NIXON read a paper on a Case of Primary Lateral Sclerosis, and he exhibited the patient. [This paper will be found at page 301.]

DR. J. W. MOORE pointed out that the deep reflexes were better marked on the side first affected, and on which the disease had apparently made most way. This was of some interest, as the right limb was affected more than two months before the left became implicated.

DR. HENRY KENNEDY said there were cases on record where similar symptoms existed, and yet no lesion of the cord. Considering some of the facts, there were grounds for ascribing all the symptoms to a local cause. The late Dr. Graves had drawn attention to the fact of paraplegia

occurring as the result of external causes, and that persons can get paralysis of the lower limbs from exposure to wet. The boy here being a common labourer, it was not straining a point to suppose that he had been exposed in such a way as to endanger the functions of the lower limbs. In Weir Mitchell's work there were records of a host of cases where extraordinary symptoms arose from direct injury to the nerves themselves. A Scotch medical man had given an interesting account of an individual labouring under an affection of the hand, and after death the nerves of the hand and arm were found diseased in themselves. Therefore, he would be slow to connect the symptoms necessarily with the spinal cord.

DR. NIXON, in reply, concurred with Dr. Moore that the reflexes were more marked in the limb where the paralysis commenced than in the other limb. It was difficult to conceive how anyone could adopt the view of the symptoms that existed in the boy's case being due to a peripheral form of paralysis such as follows injury of the nerve trunks. Why should the motor portion of a compound nerve be picked out in the processes of disease whilst the sensitive part of the nerve remained unaffected? Besides, the reflex phenomena which existed distinctly pointed to the existence of a central lesion. It seemed obvious that the symptoms present in the case reported could not be attributed to any peripheral lesion.

*Discussion on the present Epidemic of Scarlet Fever in Dublin.*

DR. J. W. MOORE said:—It is, no doubt, owing to my connexion with a large epidemic hospital—Cork-street Fever Hospital, Dublin—that the Council have done me the honour of asking me to open the discussion on the present epidemic of scarlet fever in this city.

*Seasonal Prevalence.*—The first point of great interest is the strict obedience to the law of seasonal prevalence of scarlet fever which the epidemic has shown. Long since, the Registrar-General of England wrote: "Scarlatina discovers a uniform, well-marked tendency to increase in the last six months, and attain its maximum in the December quarter, the earlier half of the following year witnessing a decrease."<sup>a</sup> In Dublin the reports of the late Registrar-General of Ireland, and of Dr. Grimshaw, who now holds that important office, show that the disease is almost invariably most prevalent and fatal in the fourth quarter of the year; and Dr. Ballard<sup>b</sup> draws inferences which confirm these results. Commenting upon the relation between the prevalence of scarlatina and a given temperature of the air, he observes that a mean atmospheric temperature of about 60°, or between 56° and 60°, is that most favourable to the outbreak of scarlatina. A fall of mean temperature below 53°

<sup>a</sup> Twenty-eighth Annual Report of Births, Deaths, and Marriages P. 38.

<sup>b</sup> Loc. cit. P. 65.

tends to arrest the disease. Dr. Tripe, Medical Officer of Health for Hackney, arrived at similar conclusions, from an examination of statistics bearing upon the prevalence of the disease in London during a long series of years. Out of every 100 deaths 17·2 occurred in spring, 21·8 in summer, 35·6 in autumn, and 25·4 in winter. According to this author, a temperature below 44·6° is adverse to the spread of scarlet fever, whereas a higher temperature increases it, especially if the humidity of the air is less than usual. Here, however, is a paradox: If a fall of temperature below 58° tends to arrest the disease, why does the mortality continue high during the winter months? In Dublin it continues very high until the ninth week of the new year—that is, until the beginning of March; and it remains high until the nineteenth week—that is, until about the beginning of May. The explanation of this fact is to be found in the diminished ventilation in the tenements of the poor during the winter months. The *materies morbi* of scarlet fever is very active, and, under circumstances of diminished ventilation and overcrowding, so potent a virus finds a congenial soil, and spreads readily, even during the winter months, when also the throat complications of scarlet fever are likely to be more severe and fatal than in summer.

*Statistics.*—Taking the statistics from the Cork-street Fever Hospital reports for the years 1874–83 inclusive, I find that the total admissions of patients suffering from scarlet fever during the ten years in question numbered 738. Of these 738 patients, 192 were admitted in the first quarter of the year, 136 in the second quarter, 194 in the third, and 216 in the last quarter. In the first three months of 1883 only 2 cases were admitted; in the second quarter, 13; in the third, 47; and in the fourth, 85. The mortality was distributed over the year pretty much as was the prevalence of the disease; for instance, in the ten years mentioned, there were, in the first quarter, 38 deaths; in the second, 24; in the third, 31; and in the fourth, 56—total, 149. To go into particulars, I beg to submit the monthly admissions for the whole ten years. Taking 1883, the admissions were—in January, 0; February, 0; March, 2; April, 0; May, 8; June, 5; July, 9; August, 15; September, 23; October, 27; November, 32; and December, 26. The diminished number of admissions in December has been followed by a still further decrease in January, and the epidemic now seems to be subsiding in accordance with the usual law. The epidemic reached its greatest prevalence at the end of October and through the month of November. Since then it has shown a tendency to decline. The eight cases admitted in May were connected with a local outbreak in the neighbourhood of Old Kilmainham and Bow-lane West. Within two weeks of this outbreak two or three other cases occurred in Thomas-street and Francis-street. The epidemic remained in abeyance until August, when the admissions rose considerably. In the report of Cork-street Hospital for 1875 attention was drawn to the fact that nearly

every epidemic of scarlet fever arose in the neighbourhood of Francis-street, Patrick-street, and the lanes and alleys connected therewith—localities which have been, in fact, known as a scarlatina haunt for many years. In the same report the necessity of careful supervision at all times, but especially in a period of a scarlatina epidemic, was pointed out. In the present instance a majority of the cases admitted to the hospital came from the neighbourhood of Bride-street, Patrick-street, and Francis-street. There was, in a word, a very powerful focus of the disease in the district lying immediately to the N. and N.E. of St. Patrick's Cathedral.

*Mortality.*—The mortality amongst the hospital patients varied considerably from year to year. In the non-epidemic years the mortality was low; in the epidemic years it was sometimes exceedingly high. In 1874 the admissions were 108, and 19 patients died, giving a mortality of 17·6 per cent. In 1875 the admissions numbered 46, and the deaths 8, giving a mortality of 17·4 per cent. In 1876 the admissions numbered 75, and there were only 8 deaths, giving a mortality of 10·7 per cent. In 1877 there were 22 admissions, and there was only 1 death, the mortality falling to 4·5 per cent. In 1878 there were 22 admissions, and 2 deaths, the mortality rising to 9 per cent. The winter of 1878-79 was one of unparalleled severity. During December and January intense frosts prevailed; there was great distress, and formidable outbreaks occurred in Dublin, not only of scarlet fever but also of measles and smallpox. In January, 1879, 42 patients, nearly all of whom were young children, were admitted from the South Dublin Union in scarlet fever; of these no fewer than 19 succumbed. The mortality for that year, in consequence of the great death-rate in January, rose to 36·4 per cent. The epidemic thus set agoing in 1879 was continued all through 1880; so that, in the latter year, the admissions numbered 148, and the deaths 27, being 18·2 per cent. In 1881 there were 45 admissions, and 8 deaths, being 17·8 per cent. In 1882 the admissions fell to 15, and there was but 1 death, giving a mortality of 6·7 per cent. In 1883 the admissions numbered 147, with 35 deaths, the mortality being 23·8. This last figure practically represents the mortality in Cork-street Hospital of the present epidemic, which has been one of considerable severity.

*Sex.*—With reference to the sex of the patients treated in the hospital since April 1, 1883, up to the end of January, 1884, the males numbered 75, of whom 18 died, the mortality being 24·0 per cent.; while there were 86 females, of whom 20 died, the mortality being 23·3 per cent. The total admissions up to the end of January numbered 161, with 38 deaths, the general mortality being 23·6 per cent.

*Age.*—Again, as regards the ages of the patients—25 males and 17 females, under 5 years, were admitted, of whom 14 died—namely, 8 males and 6 females; between 5 and 15 years, there were 43 males

and 37 females, of whom 22 died—namely, 9 males and 13 females; between 15 and under 20, there were only 1 male and 6 females, of whom none died; between 20 and 40, there were 5 males and 6 females, of whom 2 died, 1 male and 1 female; between 40 and 60, there was 1 male, who recovered. Nothing more conclusively shows the formidable character of scarlet fever, when it affects young children, than the foregoing figures. Typhus is comparatively a plaything among children, if previously healthy; but, on the other hand, scarlatina is usually a plague among children of the poorer classes in a city like Dublin.

*Type of the Epidemic.*—The prevailing type of the disease has been scarlatina anginosa, having regard to the number of cases in which the disease had been ushered in with severe sore throat, and in which it was subsequently complicated with glandular swellings in the neck and throat. In some instances great damage was done by cases of scarlet fever having been neglected in the earlier stages, or altogether overlooked. In several instances the patients were first admitted when in the stage of desquamation, with renal complications. One day, when walking from the Meath Hospital to Cork-street Hospital, I stopped a woman, who was carrying a pale-faced, delicate child, and asked what was wrong with it. I looked more closely, and saw that the child was "peeling." The mother said she was going to see the dispensary doctor to get advice for the child, but I recommended her to go to Cork-street Hospital, where the child would be carefully looked after, and the danger to the public health would be prevented. Unfortunately, I saw no more of mother or child. From my experience in the extern department of the Meath Hospital, I am of opinion that many cases of scarlet fever were brought to the city dispensaries in the most infectious stage of the disease.

In some cases life was extinguished almost in a few hours by the malignancy of the fever poison. The appearance of these patients was not unlike that so characteristic of petechial typhus, the ataxic and adynamic symptoms being the same.

*Complications.*—When the cold weather set in, acute desquamatus nephritis became common. As regards the treatment of uræmic convulsions, the observations made by Dr. Leslie Maturin, formerly Physician to the South Dublin Union Fever Hospital at Kilmainham, and now Resident Medical Officer at Cork-street Fever Hospital, tend to prove that the best remedy is pilocarpine. In two cases of nephritis, œdema of the lung was the immediate cause of death. Scarlatinal diphtheria occurred in a man forty-three years of age, who recovered, having come from a house where two children lay dead, and a couple of others were at the time recovering from scarlet fever. He recovered without a bad symptom, his throat having been sprayed frequently with sulphurous acid. The thick false membrane might be seen, as it were, melting down, finally becoming detached, and leaving the perforated mucous membrane underneath.

TABLE I.—Showing the Monthly and Annual Admissions and Deaths of Patients suffering from Scarlet Fever, who were treated in Cork-street Fever Hospital in the Ten Years 1874–83, inclusive.

ADMISSIONS													DEATHS														
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total	January	February	March	April	May	June	July	August	September	October	November	December	Total	Mortality p cent
1874	1	8	9	8	13	6	9	10	14	11	11	8	108	1	-	1	1	3	1	3	3	3	1	1	1	19	17.6
1875	12	11	3	1	2	3	6	4	-	1	2	1	46	1	3	1	1	-	-	1	1	-	-	-	-	8	17.4
1876	1	2	23	17	1	4	5	6	7	5	3	1	75	-	-	1	3	-	1	2	-	-	1	-	-	8	10.7
1877	3	1	2	3	2	1	3	2	3	2	-	-	22	-	-	-	-	-	-	-	-	-	1	-	1	4.5	
1878	-	1	1	1	3	1	2	-	2	5	4	2	22	-	-	-	-	-	-	-	-	2	-	-	2	9.0	
1879	42	4	5	6	4	-	-	1	14	13	12	9	110	12	7	1	2	3	-	-	-	2	6	7	-	40	36.4
1880	11	13	15	10	14	14	13	11	17	16	12	2	148	3	1	3	4	1	2	-	-	4	4	2	3	27	18.2
1881	3	14	3	-	3	2	6	1	4	4	3	2	45	1	1	1	-	2	-	-	2	1	-	-	-	8	17.8
1882	-	-	2	2	-	2	3	1	3	1	1	-	15	-	-	-	-	-	-	-	-	-	1	-	1	6.7	
1883	-	-	2	-	8	5	9	15	23	27	32	26	147	-	-	-	-	-	-	1	-	8	10	11	5	35	23.8
	73	54	65	43	50	38	56	51	87	85	80	51	733	18	12	8	11	9	4	7	6	18	25	22	9	149	20.2
	192			186			194			216				38			24				31			56			

TABLE II.—*Showing the Number of Male and Female Patients who suffered from Scarlet Fever between April 1st, 1883, and January 31st, 1884, with the Ages and Deaths and Mortality in each group of Ages:—*

MALES				FEMALES			
Age	Admitted	Died	Mortality per cent.	Age	Admitted	Died	Mortality per cent.
Under 5 years -	25	8	32.0	Under 5 years -	17	6	35.3
5 and under 15 -	45	9	20.0	5 and under 15 -	57	13	22.8
15 and under 20 -	1	-	-	15 and under 20 -	6	-	-
20 and under 40 -	5	1	20.0	20 and under 40 -	6	1	16.7
40 and under 60 -	1	-	-	40 and under 60 -	-	-	-
60 and under 80 -	-	-	-	60 and under 80 -	-	-	-
Total -	75	18	24.0	Total -	86	20	23.3

Total Admissions - 161	} General Mortality per cent. - 23.6
Total Deaths - 38	

Diffuse cellulitis was not an uncommon complication. The danger to life is usually in direct proportion to the extent of this form of cellulitis. In one case diffuse cellulitis terminated in cancrum oris. At my morning visit I found a tiny black spot over the centre of the cellutic swelling of the jaw, and this spread, so that in a few days a large cavity had formed in the cheek, through which the tongue could be seen. In another patient an attack of convulsions occurred. It was supposed to be due to the advent of nephritis. This view was entertained by the clinical clerk and by the nurse, who had large experience. They took means to treat the supposed renal complication. Next morning the real cause of the convulsions and swelling of the face proved to be an attack of erysipelas. This is of some interest, considering the close relationship between erysipelas and scarlet fever. In a case in private practice, persistent temperatures of 105° gave me great anxiety, having lasted three or four days. I could hardly inspect the throat owing to the manifest enlargement of the tonsils and the difficulty of separating the teeth. Suddenly an abscess in the left tonsil burst, and there was a profuse discharge of foul-smelling pus. I prognosticated a rapid deferescence when this occurred, and this opinion was verified by the result. The pulse, however, remained high, and the temperature shortly rose again. At this time the patient, a young lady, complained of severe



pains in her shoulders, and the action of the heart was excited, as if she was about to have cardiac trouble. I put her on a mixture of salicylic acid, 80 grains; acetate of potassium, 80 grains; a little glycerine, and water to 8 ounces. Of this a tablespoonful was given every hour, until the pain and swelling of the joints subsided. The joints were packed with cotton wool, and the front of the chest was also covered with a layer of the same. She recovered from that only to suffer from another complication, phlegmasia alba dolens affecting the left leg. The bowels were obstinately confined during the greater period of the illness, but now the lady is satisfactorily recovering, although the pulse remains persistently high. This symptom reminded me of a lesson I learned from the late Dr. Stokes, that in fever a persistently high pulse should be regarded as forecasting the occurrence of phlegmasia alba dolens, or of pulmonary mischief.

DR. J. E. KENNY bore out Dr. Moore's statement fully as to moderate temperature favouring the development of scarlatina. Moisture was an important factor in the production and spread of the disease. Another point was the connexion of scarlatina and erysipelas. In the late epidemic in August and September erysipelas became frequent, and he had a number of cases of diffuse cellulitis of an aggravated form in the North Dublin Union Workhouse Hospital, and scarlatina in the following month became epidemic in the house itself. He connected the action of the atmospheric influence and the alliance between the two diseases. The defective housing of the poor was one of the great causes of epidemics such as scarlatina. In winter time ventilation is an important factor, and that was why the epidemic reached a climax in cold weather, though it commenced in a moderate temperature. He asked what was the most rapid case in which death occurred? In a child aged thirteen years he had known it to follow thirty-six hours after the first symptoms.

DR. C. J. NIXON corroborated Dr. Kenny with regard to the effect of the humidity of the atmosphere influencing the spread of scarlatina. He agreed with Dr. Moore's statement as to the frequency with which epidemics of erysipelas and scarlatina run together. Another disease has also a close relation to scarlatina epidemics—namely, typhoid fever, and that was one of the arguments Dr. Harley used for regarding typhoid fever as abdominal scarlatina. He would be sorry to go the length of regarding the two diseases as one, only having a different *locale*. Another point he had an opportunity of verifying was the particular lesion found in very grave cases of scarlatina where death occurred in a couple of days after the accession of the disease. A little girl was admitted from a house where two of her sisters had died, and she herself died in the Mater Misericordiæ Hospital. She was unconscious when admitted, with a temperature of 106° or 107°, and an exceedingly rapid pulse. She died within twenty-four hours after admission, and within forty-eight after she got ill. On *post-mortem* examination the only lesion

he found was an extremely well-marked condition of *psorenteria*. He did not, however, think that could be regarded in the smallest degree as establishing any identity between the two diseases, because in all cases of pyrexia there was an increased amount of lymphatic functions, so that the spleen and solitary glands became enlarged. He did not think there was anything more remarkable than the varying symptoms which existed in different epidemics of scarlatina.

DR. DOYLE said Bartels had referred to a malignant form of scarlatina where the throat was principally affected, as the form most commonly complicated with nephritis.

DR. FITZPATRICK related the case of a child whom he was called to see in consultation some years ago. It was in perfect health, and was suddenly attacked with vomiting. He saw no eruption, sore throat, enlarged tonsils, or any indication, except prostration, of the high fever, and he said the child was labouring under congestion of the brain from poisoning, and the poison was most probably that of scarlatina. The child died next morning at seven o'clock. That was the quickest case of fatality he ever saw. A *post-mortem* examination was held, and a slight effusion was found on the brain, while there was enormous congestion of the cerebral substance. One solitary gland was enlarged. Two of the family and a lady in the house were attacked with scarlatina. He himself took the disease, and one of his children died of it, making two deaths out of twelve cases. It afterwards transpired that the child had been brought the night before to the wake of a person who had died from scarlatina.

DR. HENRY KENNEDY observed that in those cases of rapid course the throat was very little engaged. He had seen them several times to succumb between thirty and thirty-six hours. Within six weeks he had been called to two fatal cases, which ran rapidly into coma. There was no affection of the throat, but there was evidence of congestion, and the pupil of the eye was wild-looking and exceedingly contracted. He had been cognisant of four cases of fatal hæmorrhage from the vessels in the neck giving way.

SURGEON-MAJOR GORE mentioned the extreme rarity of scarlet fever in India, where there was such a high temperature. In five and a half years' experience in India he reported only four cases, and these in troops coming into the country. The disease never spread. It did not exist among the natives, whereas measles was extremely common.

DR. J. W. MOORE, in reply, said during the present epidemic they had had no very rapid case. The shortest was three days from the initial symptoms. The most rapid case of which he was ever cognisant was twenty-three hours. As to the period of incubation, in the case alluded to by Dr. Fitzpatrick, it appeared to be only one day. He was now in the habit of speaking confidently as to the safety of those who

had been exposed to the infection if seven days had elapsed from the exposure. There was no ground for supposing that the period of latency was protracted beyond seven days; it was usually between three and seven. With regard to the coincidence of enteric fever and scarlet fever, or (as Dr. Nixon had put it) the possible connexion, he did not believe in that at all. Enteric fever and scarlet fever both arose in autumn; that explained their coincidence. Again, both were accompanied by a glandular complication, particularly in children, but the glandular complication was quite distinct. It was usually the solitary glands in scarlet fever that were affected, while in typhoid fever the agminate glands were the chief seat of the local lesion. There had not been much enteric fever in Dublin within the last six months. With regard to the infrequency of scarlet fever in India, Dr. Ballard considered that a higher temperature than 60° did not appear to be in itself unfavourable. For the development of the disease it was necessary that the relative humidity of the atmosphere should not exceed 86 per cent., or be much less than 74 per cent. In India the temperature was exceedingly high, unless at the rainy season, and hence the infrequency of the disease for the reason he had mentioned. The coincidence of erysipelas and scarlet fever was not a new discovery, having been alluded to by Dr. Graves as occurring in the terrible epidemics of 1808 and 1832 in Dublin; and the late Mr. James Cusack had also placed the same observation on record. Lastly, it was worth remembering that smallpox and scarlet fever were closely related as regards their times of prevalence, and there seemed to be a strange susceptibility to the poison of scarlet fever by those who were recovering from smallpox, while the converse was equally true. The same observation was not at all applicable to typhus fever.

The CHAIRMAN remarked, as to the parallelism which Dr. Nixon seemed to think existed between scarlatina and enteric fever, that, so far as the present epidemic was concerned, there was no parallel whatever. During the fifty-two weeks of 1883 enteric fever was constantly prevalent, whereas in the early part of the year the death-rate from scarlatina was returned in most of the columns blank. Six weeks elapsed without a single death from scarlatina being registered, and then only one was registered. In Dublin the epidemic had been as nothing compared with what had occurred in Belfast, where, during 1883, the deaths from scarlatina numbered 853, as against 179 in Dublin, and the Belfast district was not two-thirds the size of the Dublin district. In Belfast it was one of the most formidable epidemics of which he had ever heard. He had a Table for ten years, setting out the most important zymotic diseases for each province, and it appeared that scarlatina and several other diseases had regularly ranged throughout the country. The prevalence of scarlet fever was highest in Leinster in 1874, in Munster in 1872, and in Ulster in 1875. This migration was a feature common

to epidemics, and showed the importance of taking proper measures to prevent the spread of disease by a system of Notification. Nearly all epidemic diseases were imported into Dublin from Liverpool, and it was important that the advent of a disease should be noted from Liverpool, just as from one part of Dublin to another. The liability of smallpox patients to get scarlatina arose from the great diffuseness of the poison of scarlatina rather than from any predisposing liability of the patients themselves.

The section adjourned.

#### DYSMENORRHOEA.

DR. FORDYCE BARKER, of New York, believes that mechanical obstruction as a cause of dysmenorrhœa exists in only a small percentage of cases; that there are two forms of the disease, one uterine and the other ovarian. In the uterine variety there are cases which do not depend at all upon obstruction; the pain is due to the effort of the uterus to relieve the plethora by the rupture of capillaries and exfoliations of mucous membrane. He uses the lactate of iron in doses of from three to five grains three times a day, associated with chlorate of potassium; as soon as the symptoms of menstruation begin he gives apiol, which he looks upon almost in the light of a specific. In ovarian dysmenorrhœa there is no pain until the flow has continued for two or three days; when the cause was ovarian, the bromide of sodium in ten- to fifteen-grain doses in the middle of the forenoon, in the middle of the afternoon, and at bedtime, was the proper treatment.—*Amer. Jour. Obstet.*

#### A FORMULA FOR USE IN IRREGULAR HEART ACTION.

In a discussion upon heart disease before the Boston Society for Medical Improvement, Prof. Bowditch said that he had found the following formula of great service in relieving even the most serious cardiac affections. He had used it for the last twenty-five years:—R. Pulv. digitalis, gr. 10; Pulv. colchici sem., gr. 20; Sodii bicarbonatis, gr. 30. M. et div. in pil. viginti. One of these is to be taken three or four times daily at first; subsequently to be reduced until only one is taken at bedtime; the treatment to be continued from three to nine months.—*Boston Med. and Surg. Jour.*

#### PRURITUS VULVÆ.

DR. WILLIAM GOODELL, Philadelphia, prescribes for this disease:—Carbolic acid, 1 drachm; morphine sulphate, 10 grains; boracic acid, 2 drachms; vaseline, 2 ounces. Also, pat the parts with a sponge soaked in boiling-hot water. This is also a most excellent application for that rawness so often found between the thighs of the newly-born.—*Louisville Med. News and Analectic.*

## CLINICAL RECORDS.

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*Clinical Records.* By WILLIAM ALLAN, J.P., L.R.C.S.I., L.M., &c.;  
Commissioner of the Court of Requests; Assistant Colonial Surgeon;  
Surgeon to the Victoria Hospital, Bathurst, Gambia, West Africa;  
Fellow of the Royal Colonial Institute; First Prizeman and formerly  
Prosecutor of Anatomy, Queen's College, Belfast, &c., &c.

I.—FRACTURE OF THE CLAVICLE FROM CONCUSSION.

II.—NOTE ON A CASE OF ANTHRAX (ILLUSTRATED).

III.—A CASE OF LIPOMA (ILLUSTRATED).

CASE I.—*Fracture of the Clavicle from Concussion.*—The ordinary cases of fracture of the clavicle are laid down as occurring mainly from indirect violence, as "falls on the arm or shoulder" (Druitt's "Vade Mecum," page 244); and a case is given by Bryant ("Surgery," 2nd Ed., Vol. II., page 374), where fracture took place from muscular action. I do not remember having met with a case similar to the one I now record:—W. S., a strong, healthy adult, was admitted into the Victoria Hospital, under my care, on the 14th of May, 1882, suffering from simple fracture of the right clavicle, produced by concussion consequent on the discharge of a heavily loaded gun. The fracture was situated in the middle of the bone. The force producing this fracture would be direct and of considerable violence. The treatment followed was by the axillary pad, arm-sling, and figure of 8 bandage, with rest on the back on a hard bed.

CASE II.—*On a Case of Anthrax.*—The occurrence of more than one carbuncle at the same time in the human subject is undoubtedly rare. "It is rare to see more than one carbuncle in the same individual" (F. Clarke, p. 103), and "It generally occurs singly" (Bryant, Vol. I., 2nd Ed., p. 168).

My patient was a woman well advanced in years, out of condition, with a very weak circulation—indeed, I had little hesitation in saying, after careful examination, that she suffered from cardiac degeneration. The illustration accompanying this note is taken from a sketch I made during the progress of the case. It shows exactly the position of the carbuncles—one cervical or superior, and one dorsal or inferior. The cervical anthrax, when seen by me, exhibited brawny hardness, was exquisitely painful to the touch, or on attempting to move the head. The inferior was a stage in advance, having a sloughing core with softening of the adjacent tissues (basic). The treatment followed had

reference to the constitutional powers of the patient and the stage of the carbuncles. Crucial incisions were avoided in the cervical anthrax, in the hope that it might abort; the inferior had passed the stage for incision.



Crucial incisions were also avoided as liable to give rise to shock and hæmorrhage in a patient already debilitated. I contented myself with smearing over the superior anthrax with an emollient preparation for the reason stated, and to which Sir James Paget refers. The dorsal anthrax I treated by O'Ferrall's method, linseed meal poultices being frequently applied over the aperture in the strapping. The bowels were carefully regulated, and I followed what I recommend as a sound practice in the tropics and in malarial regions—namely, the addition of quinine to aperient mixtures. Opium was exhibited to subdue restlessness and pain, attention being given to the general surroundings, cleanliness being observed, with the admission of plenty of fresh air.

The core of the dorsal anthrax sloughed out, leaving a large aperture (see illustration); this was followed by a copious flow of creamy pus intermixed with shreds of areolar tissue. The cavity formed was washed out daily with Condy's fluid and tepid water. This anthrax, having lost its core and discharged freely, was followed by softening of the cervical one, and by the discharge of its core, the size of a hen's egg, through the opening in the inferior anthrax, the sloughs and shreds of areolar tissue coming, seemingly, through a subcutaneous canal on the left side of the spinal column, and leaving after discharge an immense subcutaneous cavity in the neck. The treatment then adopted was that recommended by Hilton—rest and compression (3rd Edition, p. 145). During the progress of the case the diet was carefully looked to, avoiding over-feeding or over-stimulation. In the latter stages of the case abscesses formed necessitating the use of the knife; much swelling of the hands and feet

also occurred which yielded to position. The urine was carefully examined but gave no evidence of containing either sugar or albumen. The points of interest in the case were:—1st. The presence of two carbuncles at the same time; 2nd. The superior anthrax discharging its core and sloughs through the aperture of the inferior.

The following modes of treatment have been advocated in anthrax:—Crucial incisions, subcutaneous incisions, the use of the potassa fusa, carbolic acid, &c. Regarding the use of incisions in these cases, Sir James Paget presents three points for consideration:—1st. Do crucial incisions prevent spreading of the carbuncle? 2nd. Do they diminish the pain? 3rd. Do they hasten the healing process? He answers these questions, as follows:—"I fully believe that crucial incisions do not prevent extension; that there is only a limited set of cases in which the incisions diminish pain; and that with regard to the time which is occupied in healing, with or without incisions, the healing without incisions is very clearly and certainly the quicker."

Bryant gives his opinion on the subject of crucial incisions thus:—"I was taught it, and from observing its effects have long given it up, believing that it did little or no good, and was often followed by a harmful hæmorrhage." Sir James Paget further remarks on crucial incisions in anthrax, "First, with regard to the incisions made in carbuncles, the ordinary plan, still recommended by some is, as soon as a carbuncle is seen, to make two incisions crucially from border to border." It is said that they must go even beyond the edges of the carbuncle into the adjacent healthy textures. I have not followed this method very often, but I have followed it quite often enough to be sure that it does not produce the effects which are commonly assigned to it. It is commonly said that if you will thus make crucial incisions into a carbuncle you will prevent its spreading.

If you can find a carbuncle two or three days old, and cut it right across in both directions, I think it not unlikely that you will prevent it spreading. But even therein is a fallacy, for there is no sign by which, on looking at a commencing carbuncle, you can tell whether it will spread or not, whether it will have a diameter of an inch, or of three, six, or ten inches. The question, therefore, that I spoke of comes back, what would have happened if I had not made these incisions? and the answer to that question will be rather according to temper than according to knowledge. Habitual self-satisfaction will say I saved that man's life; self-dissatisfaction, I did him no good. The true scientific temper stands midway and says, "I will wait for further information on the matter, till I have seen more cases, and then decide whether, in the earliest stage of carbuncle, incisions are useful or not."

I remember the late Dr. James Moore, R.H.A., of the Royal Hospital, Belfast, relating to me a case in which he had followed the practice of

incision, and the patient had almost succumbed to hæmorrhage. Paget's opinion, as quoted above, is very clear; I followed it and the case did remarkably well. Unfortunately I lost sight of the patient for a few days, and on being called again found her suffering from pyæmia, to which she quickly succumbed.

**CASE III.—*Lipoma*.**—Soontoo B., a Mandingo girl, aged sixteen years, came under my care in June, 1882. She applied for surgical assistance for a tumour which had slowly and steadily increased in size and was interfering with natural functions. On examination, a tumour (represented by a sketch taken by me before removal) was found extending from the side of the left labium in front to the gluteal region posteriorly, occupying such a position as to have to be held aside when evacuating the bowel.



The history gave the following information:—The growth was first noticed ten years previously, after an attack of variola, and had increased to its present size (larger than the head of a fully-formed child at birth), measuring 8 inches round the base, not pedunculated. A large vein traversed the anterior surface of the tumour. On palpation it was lobulated, soft, cool, and painless; the diagnosis was, therefore, not difficult.

After a few days' preparatory treatment, and waiting until the menstrual flux had passed, she was placed in the lithotomy position and chloroformed. A free incision was made from before backwards (in the median line of the tumour) through the skin and fibro-cellular capsule of the growth, the skin on each side being turned down in flaps and afterwards cut to perfect adaptation, avoiding redundancy. Silk sutures were applied, and a dressing of lint saturated with carbolic oil, with a further pad of cotton wool to form a graduated pressure. On account of the position of the incision the bowels were locked by opium for a few days. The tumour weighed 1 lb. 1 oz., and was purely fatty. The after-treatment was by ordinary surgical means, the case terminating favourably.



# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P., F.R. Met. Soc.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, February 23, 1884.*

Towns	Population in 1884	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES								DEATH-RATE per 1,000	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarthos	Deaths from Phthisis	From all causes	From seven Zymotics
Dublin, -	351,014	795	815	169	202	-	1	17	4	8	19	8	100	30·2	2·2
Belfast, -	216,622	564	405	50	76	-	-	14	1	8	2	10	71	24·3	2·1
Cork, -	80,124	182	156	18	36	-	10	-	-	4	4	2	16	25·3	3·2
Limerick, -	38,562	94	92	9	34	-	1	1	1	5	3	3	7	31·1	4·7
Derry, -	29,162	78	61	6	14	-	-	7	-	3	-	2	10	27·2	5·3
Waterford, -	22,457	38	50	7	10	-	-	3	-	7	-	1	6	29·0	7·5
Galway, -	15,471	36	30	5	17	-	-	-	-	-	-	-	4	25·2	-
Newry, -	14,808	31	26	6	4	-	1	-	-	-	-	2	6	22·8	2·6

## Remarks.

With the advancing winter season a general tendency for the mortality in the eight selected towns to increase is observable—at the same time the death-rates are by no means as high as is usual in February. The highest rates are 31·1 per 1,000 of the population annually in Limerick, 30·2 in Dublin, 29·0 in Waterford, and 27·2 in Londonderry; the lowest rates are 22·8 in Newry, 24·3 in Belfast, 25·2 in Galway, and 25·3 in Cork. The rate of mortality from seven chief zymotics ranged from 7·5 per 1,000 per annum in Waterford, 5·3 in Londonderry, 4·7 in Limerick, 3·2 in Cork, 2·6 in Newry, 2·2 in Dublin, and 2·1 in Belfast to *nil* in Galway.

The recorded deaths represented a rate per 1,000 of the population annually of 20·6 in twenty-eight large English towns (including London, in which the rate was 20·0), 27·0 in the sixteen chief towns of Ireland, 25·1 in Glasgow, and 21·5 in Edinburgh. If the deaths (numbering 18) of persons admitted into public institutions from localities outside the Dublin Registration District are deducted, the death-rate of that

district becomes 29·5, while that of the portion of the district included within the municipal boundary appears as 32·9.

Acute febrile zymotics were returned as the cause of death in 72 instances in the Dublin district, compared with 73 in the preceding four weeks and a ten-years' average of 133·1 in the corresponding period. This group of maladies therefore was again little more than half as fatal as usual. The 72 deaths included 17 from scarlet fever, 19 from "fever," 8 from whooping-cough, 8 from diarrhoeal diseases, and 4 from diphtheria. The epidemic of scarlet fever is still gradually decreasing—the registered deaths being 11 fewer than those recorded (27) in the preceding period of four weeks, and 29 fewer than the deaths in the last four weeks of 1883. Of the 19 deaths from "fever," 10 were ascribed to typhus and 9 to enteric fever. Eleven children aged between one and five years succumbed to scarlet fever. All the 8 victims of whooping-cough were under five years of age and 2 of them were not a year old.

The epidemic of measles continues in Cork, but with less intensity; 10 deaths were caused by it, against 20, 18, and 9 in the three preceding periods. Scarlet fever was again less fatal in Belfast, but more fatal in Derry—the deaths being 14 and 7, compared with 18 and 4 respectively. Whooping-cough still shows a widespread prevalence and fatality. Diarrhoeal diseases were credited with 28 deaths in the eight towns, against 29 in the previous four weeks.

In the Dublin Registration District 795 births and 815 deaths were registered, compared with 787 births and 720 deaths in the first four weeks of 1884. The births were those of 406 boys and 389 girls. The deaths of infants under one year rose from 107 to 169; those of persons aged sixty years and upwards rose from 202 to 206.

The deaths referred to pulmonary consumption in the eight towns were 220, compared with 189, 170, and 173 in the three preceding periods of four weeks each. In Dublin diseases of the respiratory organs are stated to have caused 157 deaths, against 161, 185, and 165 in the three preceding periods, and an average of not less than 260·7 in the corresponding four weeks of the previous ten years. The 157 deaths included 108 from bronchitis (average = 197·9) and 22 from pneumonia (average = 32·1). These figures again as in past periods bear testimony to the extreme mildness of the present winter. Of the 108 persons who succumbed to bronchitis, 22 were infants under twelve months, whereas 42 had passed their sixtieth year.

On Saturday, February 23, 1884, there were under treatment in the principal Dublin hospitals no cases of smallpox or of measles, 61 cases of scarlet fever, 50 of typhus, 20 of enteric fever, and 8 of pneumonia.

The mean temperature of the four weeks was 43·2° in Dublin, 40·9° in Belfast, 44·9° at Roche's Point, Co. Cork, 43·0° at Greenwich, 41·3°

in Glasgow, and  $40\cdot5^{\circ}$  in Edinburgh. These values were from  $2^{\circ}$  to  $4^{\circ}$  in excess of the average, but were in nearly every instance considerably lower than the corresponding figures in the previous period of four weeks.

#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat.  $53^{\circ} 20' N.$ ,  
Long.  $6^{\circ} 15' W.$ , for the Month of February, 1884.*

Mean Height of Barometer,	-	-	-	29·751 inches.
Maximal Height of Barometer (on 2nd at 9 p.m.),	-	-	-	30·424 „
Minimal Height of Barometer (on 20th at midnight),	-	-	-	28·796 „
Mean Dry-bulb Temperature,	-	-	-	$43\cdot0^{\circ}$ .
Mean Wet-bulb Temperature,	-	-	-	$40\cdot9^{\circ}$ .
Mean Dew-point Temperature,	-	-	-	$38\cdot3^{\circ}$ .
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·234 inch.
Mean Humidity,	-	-	-	84·2 per cent.
Highest Temperature in Shade (on 9th),	-	-	-	$54\cdot6^{\circ}$ .
Lowest Temperature in Shade (on 2nd),	-	-	-	$31\cdot8^{\circ}$ .
Lowest Temperature on Grass (Radiation) (on 2nd),	-	-	-	$28\cdot0^{\circ}$ .
Mean Amount of Cloud,	-	-	-	76·7 per cent.
Rainfall (on 20 days),	-	-	-	3·518 inches.
Greatest Daily Rainfall (on 20th),	-	-	-	·700 inch.
General Direction of Wind,	-	-	-	S.E., S.W.

#### *Remarks.*

In Dublin the frostless character of this winter was maintained throughout February, but there was a decrease in temperature owing to the increasing prevalence of south-easterly winds. The amount of cloud was unusually large—nearly 77 per cent.—and the weather was often cheerless and wet. A very violent southerly gale occurred on the night of the 20th, when also the heaviest rainfall of the month took place.

The mean temperature ( $43\cdot0^{\circ}$ ) was about the average for February in the twenty years, 1865–84, inclusive, but it was  $2\cdot2^{\circ}$  below that of January, 1884. The rainfall (3·518 inches) was considerably above the average of the twenty years in question—viz., 2·244 inches, and the rainy days (20) were to a less extent in excess—the twenty years' average being 17·6 days. Snow or sleet fell on the 2nd, 10th, and 11th; hail, on the 10th. Lightning was seen on the 21st. Solar halos appeared on the 20th and 25th; lunar halos on the 2nd, 6th, and 11th. There were strong winds on several days. On the 26th only was the atmosphere foggy.

At the beginning of the month the weather was rendered winterly for a time by the passage across the S. of Ireland and England of a deep

depression, which caused easterly to northerly winds and a fall of temperature in Ireland. On the 2nd light snow showers fell at Kingstown and Bray, and in Dublin the thermometer did not rise above  $38.2^{\circ}$ . As this disturbance travelled eastwards, the barometer rose with great rapidity—in Dublin, from 29.102 inches at 9 a.m. of the 1st to the maximal reading of the month—30.424 inches—at 9 a.m. of the 2nd. An area of high pressure now became established over France, while several extensive depressions passed eastwards across the extreme N. of Europe. Accordingly the prevailing winds in the British Islands were W. and S.W., and at times they blew freshly—in other respects the weather was favourable and open. On the evening of the 9th, which was a showery, unsettled day, the moon, Jupiter, and Mars formed a splendid equilateral triangle in the south-eastern sky.

On the 13th the weather underwent a great change in Western Europe—an extensive area of high atmospherical pressure became established over Scandinavia and the North Sea, causing the wind to back to S.E. in the United Kingdom, where the weather became simultaneously cold, dry, and harsh. Remarkably high tides prevailed on the E. coast of Ireland about this time, and a heavy sea ran outside the Bay of Dublin owing to strong S. and S.E. winds.

On the 19th the high pressure system in the N.E. broke up, and depressions began to come in from the Atlantic over Ireland. The deepest of these arrived on the evening of the 20th—a solar halo having heralded its approach earlier in the day. After 7 p.m. a violent storm arose, and rain fell in torrents. By midnight the barometer receded to 28.796 inches in Dublin. The disturbance travelled with unusual velocity, so that, although its centre lay at 6 p.m. of the 20th over the S. of Ireland, the whole depression had passed well to the northward of Scotland by the following morning. As the disturbance moved away, lightning was seen at many stations on the evening of the 21st.

A showery period followed—the wind drawing towards N.W. on the 23rd, when a depression of moderate intensity moved eastwards across Scotland and the North Sea. From the 26th to the close of the month, the south-easterly type of weather again prevailed, the barometer being high in Sweden and Norway—low over Ireland and the Atlantic. This distribution of pressure produced searching S.E. winds, with night frosts and showers of sleet or snow in Great Britain; overcast skies, and raw, wet weather on the east coast of Ireland; mild, gloomy weather, and almost incessant rain in the S. and S.W. of this country. The contrast in the weather experienced about this time in Great Britain and in the S. of Ireland is well illustrated by the temperature readings recorded at 8 a.m. of Friday, the 29th. Thus the thermometer registered  $26^{\circ}$  at Nairn,  $29^{\circ}$  at Loughborough,  $31^{\circ}$  at Liverpool,  $35^{\circ}$  at Donaghadee, but  $47^{\circ}$  at Roche's Point, Co. Cork, and  $48^{\circ}$  at Valencia.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### ACUTE MYELITIS DUE TO SYPHILIS.

CHRONIC diffuse myelitis has long been generally recognised as often due to syphilis, and latterly we have been taught to accept certain forms of acute cerebral disease associated with arteritis as owning a similar cause, and we are now called upon to admit the importance of syphilis in the ætiology of acute myelitis. In support of this proposition, M. Déjerine has recently published an account of two cases (*vide Revue de Médecine*, January, 1884). In the first, the patient was a man, aged fifty-seven, in whom symptoms of acute myelitis affecting the lumbo-dorsal region appeared thirteen months after primary syphilis had been contracted; there was absolute loss of power and sensation in the legs, with incontinence of urine and fæces; the paralysis was quite flaccid and the skin reflexes were abolished. Ulcers formed on the abdomen from blisters produced by a poultice, and bedsores appeared on the sacrum and heels; the patient died from pulmonary troubles, four weeks after the commencement of the paralysis. In the second case, the patient was a man, aged thirty-eight, in whom the symptoms of central myelitis came on a year after primary syphilis; there was absolute loss of motion in the legs, and the skin and patellar reflexes were abolished; there was complete loss of sensation in the legs, and paralysis of the bladder and rectum; the disease ran a more rapid course than in the other patient, and death occurred on the eighth day. The changes found in the nerve centres in these two cases were very similar, and may be said to have consisted of an acute central myelitis in the lumbo-dorsal region—in the second case the changes being more limited to the gray matter than in the first case; the affection was both parenchymatous and interstitial, attacking the vessels, nerve-cells and fibres and neuroglia, in the first case there was much more evidence than in the second of an ascending and descending secondary myelitis. In both cases there was marked parenchymatous neuritis of the anterior roots, but the posterior roots were healthy. The lesions found in these two cases had no distinctive characters, and differed in no respect from those found in ordinary acute myelitis. This is fully admitted by M. Déjerine, and he points out that the unaided eye can generally determine the ætiology of a case with greater accuracy than is gained by means of the microscope. When dealing with any spinal affection clinically, the all-important thing to know is how the disease

will terminate—whether the patient will die, recover completely, or remain paralysed; and the answer to this question can only be given by statistics. Against the syphilitic origin of acute myelitis, it has been urged that it is a rare sequela of syphilis. This, says M. Déjerine, is very true; but then it is also true that acute myelitis itself is decidedly rare, and judging from the cases hitherto recorded, syphilis is the only contagious disorder met with at all frequently in acute central myelitis; and when this latter occurs at a date not remote from the period of contagion, it is impossible to avoid seeing in such an occurrence a spinal localisation of syphilis, and the conclusion is forced upon one that acute central myelitis due to syphilis is a reality.—*Medical Times*.

#### RHEUMATIC SUBCUTANEOUS NODULES.

M. TROISIER (*Progrès Méd.*) sums up our knowledge of these bodies in the following description. They are small subcutaneous tumours projecting more or less markedly. Sometimes they are not visible to the naked eye, and can be made out only by palpation, or by putting the skin over them on the stretch. When they occur in the vicinity of joints, flexion or extension of the joint, as the case may be, usually renders them more prominent. They vary much in size—they may be no bigger than a pin's head, or they may be as large as an almond. They are usually spherical or ovoid, but sometimes disc shaped; their margins are generally well defined. Of firm consistence, they are elastic rather than hard, but pressure does not alter them. The skin is freely movable over them and they are often, to a certain extent, movable on the tissues beneath them, and are adherent either to tendons, superficial aponeuroses, the ligament in the neighbourhood of joints, or to the periosteum. The skin over them is neither red, hot, nor thickened. They may be painless. They appear suddenly, and develop rapidly, but occasionally their evolution may be gradual. They usually come out in successive crops, and may last from a few days to some weeks; their absorption takes a longer time than their development; they never leave any permanent traces behind them. They may be found about any of the joints, at all the superficial bony structures, *e.g.*, the patella, malleoli, olecranon, scapula, crest of the ilium, bones of the hand and the surface of the skull, especially the forehead and occipital region, over the spinous processes of the vertebræ in the ear, and in fact anywhere that they can develop in the superficial aponeurosis. They are often symmetrically arranged. As regards their anatomical seat and minute structure, he is of opinion that they originate in the fibrous tissue of tendon, ligament, aponeuroses, and periosteum, and push their way into the subcutaneous tissue, from which however they never arise, and to which they never become adherent. They are composed of an embryonic tissue, showing at some points more or less of organisation and undergoing in places a necrobiotic change or

process of molecular re-absorption. In other words, there is a new growth of connective tissue taking origin from the fibrous tissue, but never arriving at such a complete stage of evolution as to deserve the title of fibrous tissue. This view offers a ready explanation of their temporary character, and their tendency to disappear completely. They belong essentially to rheumatism, both by their co-existence with other rheumatic manifestations, and by their mode of evolution, which, in some respects, recalls the shifting and fugitive character of the latter. They are not in themselves of any gravity, and call for no special local treatment.—*Medical Times*.

#### PERISPLENITIS AND PLEURISY IN TYPHOID FEVER.

SIMPLE pleurisy, without pulmonary lesion, is supposed to be a rare complication of typhoid fever. Guillermet has collected a number of such cases, and seems to agree with another observer who regards simple pleurisy as rather common in typhoid fever, and who attributes it to the marked tendency to serous inflammation which exists in this disease. The observations of Dr. Merklin (*Revue Médicale*) lead him to advance a more rational pathogenesis. He states that the spleen in typhoid fever is not only the seat of a passive congestion, but is also a centre of inflammatory irritation which may involve the capsule. This may determine by continuity a localised or general peritonitis, whence the inflammation may spread to the diaphragmatic pleura. In this way he would explain the origin of simple pleurisy, and not by a preference of inflammation to seek the serous membranes.—*The Southern Clinic*.

#### INJECTIONS OF ETHER IN SEBACEOUS CYSTS.

M. VIDAL recommends the injection of 5 to 10 drops of ether into these cysts, every second day, until inflammation is set up. Then puncture the base of the tumour, when pus will escape, followed by broken down sebaceous matter, and the tumour is cured.—*The Southern Clinic*.

#### UTERINE HYPERÆSTHESIA.

FOR a few days antecedent to the actual commencement of the catamenial flux women not infrequently suffer acute pain in the pelvic region, doubtless due to hyperæmia and hyperæsthesia of the reproductive belongings. To obviate this—R. Codeinæ sulphatis, gr. 1; chloral hydratis; ammonii bromidi, ʒʒ gr. 20; aquæ camphoræ, ʒj.—M. Sig. For one dose; take at bedtime. A repetition of the dose at that period is rarely necessary. In some cases a warm sitz-bath of fifteen minutes' duration before retiring is a valuable adjuvant.—*Virginia Med. Monthly*.

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OF

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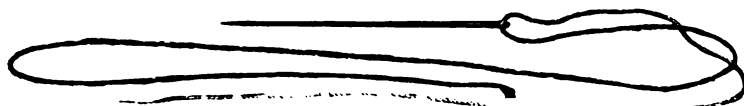
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J. O'B. after the Operation of Pharyngotomy (*from a Photograph*).



Needle extracted from his Pharynx.



Tumour extracted from Pharynx in Case No. II.  
Showing portions replaced, coughed up during Operation.

FORSTER & CO., 18 to 21 William Street, DUBLIN

MR. WHEELER ON PHARYNGOTOMY.

# THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

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MAY 1, 1884.

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## PART I. ORIGINAL COMMUNICATIONS.

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**ART. XVII.—*Cases of Pharyngotomy.***\* By WILLIAM IRELAND WHEELER, President of the Royal College of Surgeons in Ireland; President of the Surgical Section of the Academy of Medicine; Doctor of Medicine and Master of Surgery of the University of Dublin; Member of the King and Queen's College of Physicians; Surgeon to and Lecturer on Clinical and Operative Surgery at the City of Dublin Hospital, &c., &c.

- I. SUCCESSFUL REMOVAL BY THE OPERATION OF PHARYNGOTOMY OF A FOREIGN BODY IMPACTED IN THE PHARYNX, BEING THE FIRST OF THE KIND PERFORMED IN IRELAND.
- II. PHARYNGOTOMY SUCCESSFULLY PERFORMED, FOLLOWED BY THE PATIENT'S RAPID RECOVERY, FOR REMOVAL OF A TUMOUR (SPINDLE-CELLED SARCOMA) FROM PHARYNX WHICH SPRUNG FROM THE STYLOHYOID LIGAMENT AND STYLOID PROCESS, OBSTRUCTING THE FOOD AND AIR PASSAGES, CAUSING IMPENDING SUFFOCATION, SUBSEQUENT RECURRENCE OF A SIMILAR GROWTH SOME MONTHS AFTER IN A DIFFERENT SITUATION FROM, WHICH THE PATIENT SUCCUMBED.

TEN years ago I brought before the Surgical Society of Ireland the history of a case which required the operation of pharyngotomy, being the only such operation ever performed in Ireland. I now desire to bring before the Surgical Section of the Academy of

\* Read before the Surgical Section of the Academy of Medicine in Ireland, Friday, November 9, 1883.

Medicine the particulars of a similar operation required for the removal of a tumour growing in the pharynx which occurred in my practice last year. Before relating the more recent case it will be interesting to give an epitome of the one already detailed :—

CASE I.—J. O'B., aged forty-five years, a large man in robust health, by occupation a farmer, residing in the County Leitrim, was admitted into the City of Dublin Hospital, under my care, on Tuesday, the 10th November, 1874, having been sent in by my friend Dr. Thomas Palmer. At the time of his admission his face was full and flushed, his conjunctivæ were slightly injected, and there was a huskiness in his voice as if he were suffering from laryngitis. From the corner of his mouth hung a strong black thread, which was fastened round his left ear. Intense anxiety was depicted on his countenance. He was unable to swallow any solid food, and subsisted on fluids. He stated that on the previous Sunday—that is, two days before his admission—he had been sewing a button on his trousers, and having put the needle into his mouth, eye foremost, it slipped down. He endeavoured to withdraw it by the thread, but it seemed to him to fasten it tighter for the obvious reason that he was embedding the point more firmly. On examining his throat with the laryngoscope I was able to detect the exact position of the needle. It was somewhat obliquely placed, the eye being buried in the left palatopharyngeus muscle, the point in the left arytenoid cartilage. Before his admission Dr. Palmer had tried to withdraw the needle, as also Dr. Little, of the Sligo Infirmary. I endeavoured during the night upon which he came to hospital to extract the needle, but without success. I believe I caught it with a forceps, but it slipped through the blades. I ordered him ice to suck, and made slight traction on the thread by fastening it to his cheek with adhesive plaster. On the following day, the 11th November, I tried again to remove the needle but without success, having procured different kinds of forceps for the purpose—one lent me by Mr. Butcher, the blades of which opened antero-posteriorly, I thought might have been useful. After this attempt to withdraw the needle, the patient suffered so much laryngeal distress, I determined not to try its removal again for some days until the symptoms ascribable to the endeavours at removing it had subsided. He was ordered ice to suck and to inhale the steam of hot water. On the following day (the 12th November) the laryngeal distress from which he suffered had considerably lessened. The ice was continued. He was dieted upon milk and beef tea. On the 15th of November I again endeavoured to withdraw the needle, and had an eye or hook put on the external surface of one of the blades of the forceps in order that the thread, to which I had added a portion of hempen ligature to make it longer, might run through the eye, and thus direct the forceps to the needle. The needle had, however, become so completely

and firmly embedded that it was impossible to catch it. I also tried the thread running through a catheter perforated at the end, hoping by this means to dislodge and depress one extremity of the needle. This was also unsuccessful. I contemplated dividing the needle and also trying the effect of magnetism, but abandoned these ideas for obvious reasons. From the day of the impaction of the needle up to the 17th of November the patient had not swallowed any solid food, and had become considerably thinner, pale, and haggard-looking. He suffered occasionally from intense pain not only where the foreign body was situated, but up the side of his head and in his ear, which caused him sleepless nights. He did not suffer so much laryngeal irritation after this last trial at removal, and it was astonishing to witness the man's patient toleration of the various attempts to relieve him. Having exhausted every means possible to accomplish the extraction of the needle without opening the pharynx, it became evident, from the condition of the patient, his increasing weakness, the anxiety he was suffering, his occasional intense pain added to his numerous and constant importunities to relieve him and cut it out, that pharyngotomy was inevitable.

After consultation with my colleagues, Mr. Tufnell and Dr. Barker, who attended, I determined to operate, and on Monday, the 23rd of November, before a large class of students and several distinguished surgeons, I proceeded in the following manner:—

The patient having been placed on the operating table, was put under the influence of chloroform. I made an incision on the left side of the neck, commencing from the body of the os hyoides to the superior margin of the cricoid cartilage, through the integuments and fascia; each layer of fascia I divided on a director; a small vessel sprung, most probably the sterno-mastoid branch of the superior thyroid artery, which I quickly ligatured. The common internal and external carotid arteries now came into view; also the superior thyroid artery and superior laryngeal nerve, the internal jugular vein and pneumogastric nerve, with a few filaments from the ninth nerve. I next separated the attachment of the omohyoid muscle.

The chloroform was now discontinued. Mr. Butcher was good enough to retract the vessels and keep them to the outside; a staff which I passed into the mouth and pharynx (originally recommended by Vacca Berlingieri) was held by Mr. Tufnell, and the pharynx was thus caused to bulge at the left side. At this prominent point I made a small incision sufficient to admit the top of my index finger. The staff was now withdrawn and I enlarged with my fingers the opening already made in a direction upwards and downwards. I now passed my finger behind the ala of the thyroid cartilage, but was unable to find the needle. I next passed a forceps on the palmar aspect of my left index finger to the situation in which I knew the needle was, but could not catch it.



I now passed my left forefinger upwards towards the mouth and brought the thread attached to the needle from the mouth through the wound. I followed the course of the thread, but the needle was entirely embedded in the soft structures. I scraped through the tissues with my finger nail and came on the needle. By slight traction of the thread and grasping the needle with a forceps, I withdrew it, to my extreme gratification and to the relief of my patient. During the period I was extracting the needle the man suffered from great dyspnoea; his face was congested, his eyes were protruding, the perspiration was pouring off his face; and to the uninitiated it would seem as if dissolution were near at hand. I put no sutures in the gullet, but the edges of the wound I brought towards one another with a few points of carbolic suture. The man was conveyed to bed; nutritive enemata were administered during the day; he sucked ice frequently, and a sponge soaked in milk was occasionally squeezed on his lips. Four hours after the operation, when I saw him, the anxious expression had left his countenance; he felt relieved. Some of the milk given by means of the sponge, and also that given by a spoon, came out through the wound, but the larger portion followed the natural course to the stomach.

On the 25th of November, two days after the operation, he had a rigor; his temperature rose to 100° F.; an abscess formed in the vicinity of the incision, which discharged itself through it, as I had taken the precaution not to draw the edges closely together, foreseeing the likelihood of the above result. By the 6th of December the fluid taken by the mouth had ceased to come through the wound, and on the 19th of December, 1874, he was discharged, perfectly recovered. I heard of him several years afterwards, and he was in good health.

The history of the next case is as follows:—

CASE II.—A lady of generally good health and robust physique was attacked about the beginning of August, 1882, with an irritation of the throat, which she considered was caused by an ordinary sore throat. She continued to suffer slight inconvenience from the complaint for some time without taking much notice of it; and after the lapse of a month or so consulted a medical practitioner, who treated her by means of gargles, &c. Finding no relief she again consulted him, stating that her voice (for singing) was going, and that she expectorated mucus of a disagreeable odour, and that she could not swallow as easily as when she first consulted him. Thinking that the cause arose from carious teeth, she was recommended to have some of her back molars extracted to allow a free vent for the pus that was assumed to be situated about the upper part of the pharynx. As time went on, instead of improvement taking place, she gradually became worse, more embarrassed in her deglutition,

and her voice assumed a characteristic hoarseness which entirely prevented her attempting to sing. At the upper and lateral portion of her neck, beneath the right angle of her inferior maxilla, and extending downwards about as far as the cricoid cartilage, she observed a slight swelling, which was permanent and caused a considerable amount of displacement of the laryngeal cartilages on the left side, and such disfigurement that she used various means to hide the unsightly swelling. As she did not improve, her friends became anxious about her condition, especially as she was extremely low and desponding, and rapidly losing flesh, which was chiefly caused by the difficulty she experienced in swallowing, in consequence of which she was obliged to partake of the most pultaceous food. Her rest at night became disturbed; and owing to the intense noise she made when asleep her sister used to expect she would choke. Thinking a change to the seaside would prove beneficial, her parents sent her up to the county Dublin, where she stayed for two days, but she rapidly became worse, possibly owing to the journey.

On the 13th of January, 1883, I saw her for the first time; and after a careful external and internal examination with my finger, and afterwards with the laryngoscope, I diagnosed a tumour about as large as a small egg, which might contain fluid, since I could touch the superior portion of the tumour with my index finger, which gave the idea of fluctuation. The tumour was situated beneath the level of the epiglottis on the right side in the sinus pyriformis. I again saw her on Monday, the 15th of January, and on Thursday, the 18th, in consultation with Mr. Butcher. The following night she suffered extremely from obstructed respiration, and several times during the night it was feared she would choke. So severe were the symptoms that I was telegraphed for early the following morning. I determined to explore the tumour and see if it contained any fluid, which, if drawn off, would lessen its size; aspiration failed, although large quantities of a glairy fluid were evacuated. Seeing the uselessness of further interference through the mouth, I desisted; ordered soothing applications and sedative draughts.

Matters remained pretty much in the same condition till February 3rd (Saturday), when, alarming symptoms supervening, I was again hurriedly called to see her late in the evening. Her breathing was greatly embarrassed; she was unable to swallow; her pulse was weak, and she was suffering much from exhaustion.

Having obtained the services of Mr. Alfred Middleton, a Licentiate of the Royal College of Surgeons in Ireland, to watch her during the night, I determined to operate in the early morning, and remove the tumour if possible.

Accordingly, on Sunday, February the 4th, assisted by Mr. Butcher, Mr. Tufnell, Mr. Hepburn, Dr. Harley, and Mr. Alfred Middleton, I proceeded to operate. When the patient was under the influence of

bichloride of methylene, administered by Dr. Harley, I made an incision in the line of the right sterno-mastoid muscle, running from one inch below the angle of her jaw to about the level of the upper ring of the trachea. Having divided the platysma and the superficial fascia, I rapidly approached the space between the two carotid arteries; the superior laryngeal and external laryngeal nerves lay across the line of incision, as also did some of the main branches of the external carotid artery. At this point of the operation a globular body sprung forwards into the space between the two carotid arteries, and for a moment there was a doubt in my mind whether it was a portion of the tumour or an enlarged lymphatic gland. Having examined it carefully, I decided it was the latter, which was correct. By a careful dissection the middle and inferior constrictors of the pharynx came to view, and now the anæsthetic was temporarily discontinued, and a catheter, introduced into her mouth, was made to point at the site of the tumour. There was great difficulty in introducing the catheter into the pharynx and in manipulating it to the side of, and subsequently past the tumour. The end of this guide was next exposed, and a piece of silken ligature attached to the protruded end and drawn back through the mouth, having one end through the mouth and the other through the wound, to serve as a guide to the opening; also enabling immediate withdrawal of the catheter, which was urgently needed, as it caused frequent spasm and much distress to the patient.

I now introduced a forceps and opened its blades in the axis of the neck, making an opening of sufficient size to admit two of my fingers. It was impossible to remove the tumour without breaking it; it came away in pieces; occasionally portions were coughed up through the mouth. Having thoroughly explored the pharynx, the styloid process and stylo-hyoid ligament from which the tumour sprang, and having satisfied myself that all was clear, I readjusted the parts, removing the string and leaving a small portion of the wound open at the most dependent part. The patient was very weak during the operation, chiefly due to want of proper nourishment. A stimulating enema was administered. She was able now to swallow a teaspoonful of beef tea, and her voice had lost the intense raven-like hoarseness that was present before the operation.

She was now carefully removed to bed, where she fell into a tranquil sleep. From the day of the operation she gradually got better and stronger, and was enabled to swallow freely, which she had not done for months previously. She was confined to bed for fourteen days, and on the fifteenth day after the operation—she joined the family circle on the 16th of February, 1883—she left for her home, having gained flesh, looking strong and well, the line of incision being scarcely visible.

Professor Purser kindly examined the tumour and pronounced it to be

a spindle-celled sarcoma. The lady enjoyed excellent health, and joined in all the various social recreations of the country, until, about the middle of May, she again observed the same train of symptoms. She consulted me about the 20th of that month, when I discovered a tumour, but at a lower level than the former. She was beginning to suffer so much that I determined I would at all events divide the deep fascia and give the tumour room to bulge into the neck and thus relieve the pressure effects, and if possible remove this fresh growth. She had gained flesh, and was stronger than when the first operation was undertaken; yet almost immediately upon the first incision through the skin and superficial fascia, she collapsed; the anæsthetic had to be stopped, and great difficulty was experienced in restoring her. I had to content myself with making an incision through the deep fascia, which gave her relief. Eventually I fed her for some days through a tube, when she succumbed, the victim of this dreadful malady.

Before proceeding further with this communication I would wish to express my most sincere and best thanks to my friends, Mr. Butcher, Mr. Tufnell, Mr. Hepburn, Dr. Harley, and Mr. Alfred Middleton (my former pupil), for their valuable assistance. The notes of this case were chiefly taken by Mr. Middleton, and the notes of the first case I recorded by Mr. Arthur Benson, now my colleague.

To all surgeons, bodies impacted in the pharynx are a source of anxiety, calling, as they do in almost every case, for prompt assistance, perchance to relieve the sufferer from impending suffocation. When bulky and solid they are generally arrested behind the cricoid cartilage, but when pointed and sharp are more usually found in the soft parts at the base of the tongue, the discomfort caused being most distressing, vomiting and pain and difficulty in swallowing and breathing being the common symptoms. Cough and laryngeal irritation may be produced, depending on the situation. Small bodies occasionally set up inflammation, causing suppuration, from which abscess in the neck results. Cases are recorded where the cervical vertebræ became diseased from this cause. Coins have become impacted for months, and finally coughed up.\* False teeth are not unusually found impacted in the gullet and œsophagus; such cases are, indeed, comparatively common. Sir James Paget relates a case where a gentleman in a fit got a set into his pharynx, where they remained for four months (*Med. Times*, 1862).

\*Dr. O. Ward. *Path. Trans.*, 1848-9.

Mr. Bryant, in his valuable work on the "Practice of Surgery," mentions the case of a half-set of teeth falling into the pharynx during an operation for ovariectomy, the patient being under the influence of chloroform.

I myself assisted the late Professor Geoghegan in the removal of several teeth from the pharynx of a gentleman, and great caution and dexterity were required, from the danger of wounding the arteries bounding the tonsil by a sharp hook attached to the plate in which they were set.

Sir William Fergusson states the case of a female who swallowed four false teeth with gold setting, which became fixed at the lower end of the gullet. He pushed them into the stomach. In four days the patient appeared proudly displaying the teeth again in her mouth; in the meantime they had travelled the length of the intestines, and, when found, were replaced to perform their ornamental duties. He thought the patient might relinquish them for a new set, but she preferred them as lost and found cherished friends (*Lancet*, 1869).

Mr. Pollock and others relate numerous cases of this kind, which it would be tedious to record. Such foreign bodies as punch-ladles, forks, and gold watches have also been found impacted in the gullet, and some difficulty has been experienced in detecting even such large substances when embedded for some time in its walls; but although in nearly all the surgical works there is mention of the manner to explore for foreign bodies situated in the pharynx, and various methods at the command of the surgeon for extraction, by pushing them into the stomach or opening the trachea or larynx, yet the majority of surgical writers say little or nothing on the subject of pharyngotomy, and appear to mix this operation and œsophagotomy indiscriminately. The latter has but seldom been performed, and in but few cases out of the many requiring it has the operation been attempted, and thus many lives have been lost through the dread of operating.

On looking over the works of some of the most recent surgical writers I find Mr. Bryant never performed the operation. Sir William Fergusson mentions how the operation may be performed in the dissecting-room, but considers it attended with the greatest danger on the living subject. Pirrie merely relates that there is an operation of the kind. Gross never performed œsophagotomy, and makes no mention of pharyngotomy. Miller states when the operation of œsophagotomy was first proposed. Grant gives a few

lines on the subject. In several well-written works there is no notice at all of the operation. In the "Memoires de l'Académie de Chirurgie" will be found a most exhaustive account of fatal cases where the foreign bodies remained in the gullet or had been swallowed; and it appears to me that the case recorded by Mr. Kirby in the "Dublin Hospital Reports," as dying from spasmodic constriction of the muscles of the glottis, might have been saved had he performed the operation of pharyngotomy, and removed the foreign body. Foreign substances, when extracted otherwise than by the mouth, have almost in every case been removed by the operation of œsophagotomy, which appears to have been proposed by Verdue, but to have been first performed by M. Goursauld, who extracted from the œsophagus a portion of bone; the patient recovered. M. Bergin performed the next operation of the kind; recovery followed. Mr. Arnott performed the third operation of œsophagotomy on a child, two and a-half years old (*Medico-Chirurg. Trans.*, 1838). The operation was not performed till five weeks after impaction. The incision was made on the right side of the neck; the spinous process of one of the dorsal vertebræ of a sheep was removed; the child died of pneumonia. In the year 1832 M. Bergin performed the operation of œsophagotomy twice successfully (*Journal Hebdomadaire*, 1838). Dr. Martini has the next case on record. He made an incision on the foreign body—a portion of bone—but it was swallowed by the patient before it could be extracted; the bone passed to the rectum. The treatment stated to be adopted in this case was frequent bleedings. Sixty attempts, with various forceps and instruments, endeavouring to remove the impacted substance, were made; belladonna was administered by the rectum; tartar emetic injected into the veins; enemata of opium were given to check its effects. During this period the patient could not swallow even a drop of water. Need I add the case was fatal. In 1845 M. Delarocherie, Professor of Clinical Surgery at Liège, extracted a large piece of bone from the gullet of a man by œsophagotomy (*Journal de Chirurgie*, 1845). Efforts were made to remove the foreign body, which caused hæmorrhage and injury to the gullet. The incision was made on the left side. The patient had recovered on the twenty-fifth day. The wound both suppurated and sloughed.

Now all the cases I have just related are cases of œsophagotomy; and no account is given of the operation of pharyngotomy being performed till those graphically described by Mr. Cock in "Guy's

Hospital Reports," although the steps of the operation are different, the same structures are not engaged, the parts to be avoided are not similarly situated, and there is not the same readiness in getting at the pharynx as there is at the œsophagus on the left side of the neck. Although there are other difficulties to counter-balance this—namely, the extreme proximity of the left common carotid to the œsophagus compared with the pharynx, there is danger of wounding the thyroid gland in the one case not in the other; the almost absolute necessity of dividing the insertion of the omohyoid muscle in pharyngotomy not in œsophagotomy; the danger of the inferior thyroid artery being wounded in œsophagotomy not in pharyngotomy. These are all differences and distinctions which do not appear to me to have been weighed by surgical writers, and evidently for the reason that the operation has not been contemplated or performed; and thus the two operations—œsophagotomy and pharyngotomy—have not been separately described, the descriptions of the former are ideal and theoretical, while the latter is ignored by most surgical writers.

The literature upon the subject of tumours of the pharynx is comparatively meagre. These tumours are usually polypoid in shape. The most suitable classification, I think, is into fibroid or sarcomatous, lipomatous, cystic, and tubercular. They generally grow from the periosteum, and not from the wall of the pharynx, or from the base of the skull, pushing the pharynx forwards, or from the perichondrium of the cricoid cartilage. When springing from this cartilage they are long stalked, superficially lobed, and have been known to extend to the cardiac end of the stomach; those that grow from the wall of the pharynx are very vascular, sometimes ulcerate, are lobed, and narrow-stalked, and completely fill up the pharynx.

In the collection at Göttingen there is a fatty tumour of the pharynx which was passed by the rectum. It possessed hair and sebaceous glands, and was covered with skin. Tuberculous tumours sometimes occur, according to Förster, but are very uncommon.

In conclusion, I would wish to emphasise the necessity for a free external incision—a small incision—in the pharynx (which can be dilated as described), so that the filaments of the nerves may not be irreparably injured, and permanent hoarseness probably ensue; no sutures should be employed in the gullet, and plenty of drainage room should be left in the wound. There is no occasion whatever to feed the patient afterwards with a tube; sufficient nourishment

can be administered, and the introduction only retards repair. I believe this operation, if dexterously performed, not to be a fatal one, and have, as faithfully as I can remember, described each step of my operations, hoping the description may be of use to others when called on to perform pharyngotomy.

The lithographs, executed by Messrs. Forster & Co., accurately represent John O'B. after the operation; also the needle which was extracted, and the tumour removed from the pharynx, described in the second case recorded.

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ART. XVIII.—*On the Connexion of Acute Diabetes with Disease of the Pancreas.*\* By GEORGE F. DUFFEY, M.D.; Fellow and Censor K.Q.C.P.I.; Physician to the City of Dublin Hospital, &c., &c.

As the pathology of the case that furnishes the following remarks will be described by Mr. Abraham, and illustrated by microscopic sections of the pancreas and nervous centres made by him, I shall confine myself to a brief description of it, and to a discussion of the probable relationship between disease of the pancreas and diabetes.

Clinically the case was one of acute diabetes, or that type of the disease described by Lancereaux under the term of *Diabète maigre*, or emaciating diabetes. It was altogether of only two months' duration—dating from the recognition of symptoms by the patient—and its rapid course terminated, after a sudden onset of vomiting and diarrhoea, in death by coma.

CASE.—The patient was a country farm labourer, over six feet in height, and well made. His age was twenty-four, but he looked older. He was married, the father of one child, and he stated that he had always enjoyed "the best of health" until about five weeks before his admission to the City of Dublin Hospital, under my care, on the 18th October, 1883. His parents were dead; he had two brothers and two sisters alive and healthy. The first symptoms of his illness that he noticed were polyphagia, polydipsia, polyuria, and emaciation. After about a fortnight he began to feel languid and weak; he did not sleep well, and he found that he had lost a stone in weight. He could not assign any cause for his illness with the exception of his having had to work very hard during the harvest.

\* Read before the Pathological Section of the Academy of Medicine, Friday, February 29, 1884.



Upon admission he presented the usual symptoms of an advanced case of diabetes mellitus. He seemed remarkably apathetic, and rarely spoke unless in answer to a question. He preferred staying in bed to getting up, stating that he did so because he got so easily tired. During his stay in hospital the amount of highly saccharine urine he passed in the twenty-four hours varied from 215 to 170 ounces, and its specific gravity from 1045 to 1040. It had a sweetish odour, and gave the reddish-brown colour on the addition of a solution of ferric chloride, said to be due to the presence of ethyl-diacetic acid. For ten days he continued much in the same state as he was upon admission, when, without evident cause, his bowels, which had been constipated, became exceedingly loose, and vomiting also supervened. He complained of pain in the epigastrium, and the abdomen was tender on pressure. The diarrhoea persisted for a week. The stools were somewhat of a dysenteric character, being very frequent, but small in quantity, of a jelly-like consistence, and extremely fœtid. For the first two or three days they contained white masses resembling lumps of undigested caseine, but these disappeared on giving him his milk peptonised. He had now completely lost his voracious appetite, but was even more thirsty than upon admission. The debility and emaciation increased, and he became extremely low and despondent. On the evening of the 3rd of November his temperature, which had been previously normal, rose to 100°, but subsequently his extremities became very cold and his pulse quick and so weak as to be almost imperceptible. He sank then into a state of coma, or, as Dr. Wilks<sup>a</sup> more correctly perhaps would term it, of collapse, and died on the morning of the 6th November. During this latter period his face was flushed. He lay upon his back with his mouth open, and exhaled a sweet smell from his breath, but I cannot say that it was a characteristic one of acetone. His respiration was rapid, but no physical signs of pulmonary disease were elicited on examination.

The *post mortem* examination was made the day after death. Nothing remarkable was observed by the naked eye in the appearance of the organs removed, with the exception of the pancreas. This gland was hypertrophied and felt extremely indurated, the hardness being due, as Mr. Abraham's examination shows, to carcinomatous infiltration.

That a diseased state of the pancreas is frequently found after death associated with cases that presented all the symptoms of diabetes during life, is as well known as it is remarkable. According to Senator,<sup>b</sup> "diseases of the pancreas are present in about half of all the cases of diabetes." Even a larger proportion is shown in the tables compiled by Dr. Windle, of Birmingham, who, in his

<sup>a</sup> Med. Times. Jan. 19, 1884. P. 78.

<sup>b</sup> Ziemssen's Cyclopædia. Vol. XVI., p. 887.

valuable Report on "The Morbid Anatomy of Diabetes"<sup>a</sup> has collected 74 cases in which the pancreas was found diseased in diabetes out of a total of 139 cases in which the condition of the gland was referred to. Seegen, too, has found atrophy of the pancreas in 15 out of 30 autopsies he has noted of diabetic patients; and Bouchardat also attaches great importance to the state of the pancreas in this disease.<sup>b</sup>

M. Humbert Mollière, in his elaborate article on the Pancreas in the *Dict. de Méd. et de Chirurgie*, t. XXV., 1878, referring to the frequency with which alterations of that organ have been met with in diabetes, says that such observations evidently prove that in certain cases diabetes is accompanied by more or less serious, but always very extensive, lesions of the pancreas; and he further makes the interesting remark, which is borne out by my case, that in all such cases the evolution of the disease was rapid and the termination quickly fatal. The results following experimental obliteration of the pancreatic canal in animals—viz., ravenous appetite and rapid emaciation, to which they eventually succumb, would appear to throw some light upon the peculiar type of the disease.

Several recent writers, including Jaccoud, Roberts,<sup>c</sup> Niemeyer,<sup>d</sup> and Aitken,<sup>e</sup> also mention the connexion between disease of the pancreas and diabetes. The two latter authorities, however, refer only to its being found hypertrophied, but it would seem from a rough analysis of the cases I have met with in the available literature of this subject that I have consulted that the gland has more frequently been found atrophied than hypertrophied in this connexion. In all of Seegen's 15 cases already mentioned the pancreas was atrophied.

This difference in the condition of the pancreas in different cases of the same disease may, perhaps, be explained by the supposition that the atrophy is a sequence of the hypertrophy; and that in those cases of diabetes which have been of some duration the pancreas may at first have been enlarged, and subsequently have become atrophied; but that in acute cases of the disease there had not been sufficient time before the patient's death for the

<sup>a</sup> *Dubl. Jour. of Med. Sci.* August, 1883.

<sup>b</sup> N. Th. Klein. *Rev. des Sci. Méd.* Tome VII., p. 797.

<sup>c</sup> *Theory and Practice of Medicine.* Fifth Edition, p. 298.

<sup>d</sup> *Text-Book of Practical Medicine.* Vol. II., p. 773.

<sup>e</sup> *Science and Practice of Medicine.* Vol. I., p. 1051.

atrophic change to occur, which generally follows primary inflammatory enlargement of the gland.

Cyr<sup>a</sup> in a recent brochure (analysed in the *Rev. de Sci. Méd.*, t. XIX., p. 535, from which I quote) asks if atrophy of the pancreas, instead of inducing the production of diabetes, may not, on the contrary, be determined by the diabetes itself. He reminds us that diabète maigre, an essentially wasting affection, sometimes induces atrophy of the liver, of the stomach, &c. Atrophy of the pancreas, according to him, would then be a result of the process of exaggerated non-assimilation which characterises diabète maigre. This argument, of course, would not apply to the cases in which the pancreas was hypertrophied.

On the other hand it must be admitted that although disease of the pancreas is comparatively rarely found, even when looked for, there are sufficiently numerous cases on record to prove that the pancreas may be the seat of disease apart from any glycosuria. For example, in Dr. C. Handfield Jones's "Observations Respecting Degeneration of the Pancreas,"<sup>b</sup> in which thirty cases are recorded, diabetes, as a co-existing morbid condition, is not mentioned. And in Dr. Norman Moore's table of thirty-nine cases of cancer of the pancreas, met with in the records of *post mortems* at St. Bartholomew's Hospital, from the year 1867 to the year 1881<sup>c</sup>, no note is made of its being associated with diabetes. In Vol. II. of the "Transactions of the Pathological Society of New York,"<sup>d</sup> thirteen cases of diseased pancreas are reported, in none of which was disease met with. I have numerous references to other cases of morbid changes in the pancreas unassociated with diabetes.

It may be also remarked that several writers on diabetes, including Dr. Dickinson, whose monograph on the disease is so well known, make no reference to its connexion with lesions of the pancreas. That there is, however, some association between the two cannot, I think, be doubted. M. Lancereaux in a paper communicated to the *Académie de Médecine* for November, 1877,<sup>e</sup> drew attention to a special and distinctive form of diabetes, distinguished by a sudden commencement, and an especially rapid evolution, found in conjunction with pancreatic lesions. M. Depierre, in

<sup>a</sup> *Étude critique sur quelques travaux récents concernant l'anatomie pathologique du diabète.* Paris, 1880.

<sup>b</sup> *Med.-Chir. Trans.* Vol. XXXVIII. 1855.

<sup>c</sup> *St. Bartholomew's Hosp. Reports.* Vol. XVII., p. 205.

<sup>d</sup> *New York*, 1877. P. 219.

<sup>e</sup> *Lond. Med. Record.* 1877. P. 513.

1880,\* published further facts in the same connexion, showing that this so-called pancreatic diabetes was characterised by a sudden explosion of symptoms which reached an acme in a few weeks. The habitual presence of diarrhoea, as in my case, is also noted; and rapid emaciation and extreme prostration are also pathognomonic of this acute variety of the disease.

The nature of the connexion that exists in these cases is still theoretical. Klebs's view, as stated by Senator, is that the co-existence of diabetes mellitus and diseases of the pancreas depends upon lesions of the celiac plexus. Either the disease (cancer, formation of calculus, and inflammation of the surrounding tissue) starts from the pancreas, encroaches upon the plexus, and gives rise to diabetes by destroying its ganglia, or else the celiac plexus is first affected, and in consequence thereof circulatory disturbances arise in the territory supplied by the celiac artery, which lead to degeneration and atrophy of the pancreas.<sup>b</sup> Dr. Shingleton Smith,<sup>c</sup> however, has made numerous observations as regards the condition of the sympathetic ganglia in diabetes without finding any uniform or definite change, and Dr. Dickinson has generally found them to be healthy.<sup>d</sup> In Windle's tables they were normal in eight out of seventeen cases, and the changes noted in two other of the cases appear unimportant. Dr. Lauder Brunton<sup>e</sup> after stating that reflex inhibition in the liver may, probably, follow irritation of the encephalon, and possibly, also, of sympathetic ganglia, as well as of the roots, trunk, and branches of cerebro-spinal nerves, says—“There is another possible cause of increased formation of sugar in the liver; and that is, a greater proportion of diastatic ferment in it or in the blood which flows through it. . . . We do not know whether this ferment is peculiar to the blood or whether it is ptyalin or pancreatic ferment absorbed from the intestines. . . . The increased secretion of a hypertrophied pancreas may thus not only act by quickening the conversion of starch into sugar in the intestines, but by increasing the transformation of glycogen after its absorption into the blood. But atrophy of the pancreas (as we have seen) is quite as common a lesion in diabetes as hypertrophy; and, if we suppose, as is usually done, that the only function of the pancreas is that of forming ferment, it is difficult to explain the

\* Ibid. 1880. P. 150.

<sup>b</sup> Ziemssen. Loc. cit. P. 888.

<sup>c</sup> Brit. Med. Jour. Vol. I., p. 657. 1883.

<sup>d</sup> Ibid. P. 864.

<sup>e</sup> Ibid. Vol. I., p. 864. 1874.

occurrence of diabetes under these conditions, except on the supposition that in both of them the nerves of the organ are irritated, and cause reflex dilatation of the vessels of the liver in the same way that irritation of the liver itself does. But if we suppose that the pancreas not only forms ferment, but also excretes ferment already circulating in the blood, in much the same way as the liver both forms and excretes bile, we at once see that the diastatic ferment which Hüfner supposes to be found in many parts of the body may accumulate in the blood, because the pancreas can no longer excrete it, and thus lead to diabetes." Dr. Lauder Brunton, however, confesses that this explanation will seem to many persons too hypothetical, and that of irritation of the pancreatic nerves and reflex dilatation of the hepatic vessels will appear more probable.

With regard to the special nature of the pancreatic lesion in my case, I shall only remark that I have met with reports of several cases in which cancer of the pancreas has been observed. M. Ancelet, in his *Études sur les Maladies du Pancréas*,<sup>a</sup> has collected 195 observations of this kind. The disease is sometimes primary, sometimes secondary, and either the whole or a part of the gland may be engaged. Carcinoma, according to Orth,<sup>b</sup> is the most common form of morbid new growth in the pancreas. "In its primary form it usually takes the form of hard, fibrous nodules scattered throughout the organ, or else of a uniform scirrhus enlargement; more rarely colloid cancer and cylindrical-celled epithelial cancer have been observed. Colloid cancer when it occurs involves nearly the whole of the organ."<sup>c</sup> Under the name of adenocarcinoma Dr. Norman Moore<sup>d</sup> has described a form of a new growth in the pancreas, which appears not to have been previously met with.

A remarkable fact brought out by Dr. Stephen Mackenzie in the discussion on the pathology of diabetes, at the last annual meeting of the British Medical Association,<sup>e</sup> was that all his cases with one exception dying at or below the age of twenty-five years died of coma; and that the rapid course of the disease, which as a rule is equivalent to its severity, favours the occurrence of coma. He also drew attention to a circumstance which he believes to be of important prognostic significance as influencing the occurrence

<sup>a</sup> Quoted by Mollière. *Dict. de Méd. &c.* Loc. cit.

<sup>b</sup> *Diagnosis in Pathological Anatomy.* P. 335.

<sup>c</sup> *Trans. New York Path. Soc.* Vol. II., p. 219.

<sup>d</sup> *St. Bartholomew's Reports.* Loc. cit.

<sup>e</sup> *Brit. Med. Jour.* Vol. I., p. 655. 1883.

of coma, and that is, freedom from, or only slightly developed, affection of the lungs. My case bears out both these observations.\*

From a consideration of the case I have brought forward and of other similar ones I have noted, it may, I think, be reasonably inferred that there is a peculiar form of diabetes of an acute type, most common in young subjects, in which the initial symptoms come on with marked brusqueness, and in which suddenly occurring intestinal symptoms usher in the fatal coma or collapse which is the usual mode of death characteristic of these cases, and that in this form of the disease especially are morbid lesions of the pancreas likely to be met with. The nature of the connexion, if any such exists, between pancreatic disease and diabetes remains, however, still as vague and undetermined as the pathology of glycosuria itself.

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ART. XIX.—*On some Microscopical Sections from Two Cases of Diabetes Mellitus.*<sup>b</sup> By P. S. ABRAHAM, M.A., B.Sc., F.R.C.S.; Member of Court of Examiners, and Curator of the Museum, Royal College of Surgeons of Ireland.

As the result of the interesting and important discussion on diabetes mellitus which took place last year at the Pathological Society of London, we may consider that at the present time we really know very little about the true pathology of that disease. Although nearly every organ of the body has been in various cases and at different times found in a diseased condition, no definite or fundamental lesion has been demonstrated to exist in all cases. Without alluding to the numerous other chemical and pathological theories which have been, from time to time, put forward, it may be remarked that since Claude Bernard's historic discovery of glycosuria following injury to the floor of the fourth ventricle, and in consequence of the frequent termination of diabetes mellitus by coma, observers have been naturally led in recent years to a minute examination of the nervous centres. Dr. Dickinson, indeed, and some others consider that they have found in connexion with the blood-vessels of the medulla and pons abnormal appearances enough to account for the functional perversion.

I have recently had the opportunity of examining certain of the

\* *Vide also Lindsay.* *Dubl. Jour. Med. Sci.*, Oct., 1883.

<sup>b</sup> Read before the Academy of Medicine in Ireland, Friday, February 29, 1884.

nervous structures in two cases of diabetes, and although I cannot now pretend to throw much light upon the subject, it seemed to me that a demonstration of the sections which I have prepared might at least prove interesting to the members of the Pathological Section of the Academy of Medicine.

The first case was under the care of Surgeon Kelsall, A.M.D., who forwarded to me the cerebellum, pons, medulla, and a small part of the cervical cord, together with the following note:—"Sergeant J., 2nd York and Lancaster Regiment, admitted on 3rd January, 1882, with diabetes mellitus. Quantity of urine passed daily, between 300 and 400 oz.; sp. gr. between 1024 and 1036. Died 20th April, 1882. *Post mortem*, six hours after death—Liver fatty, 5 lbs. 9 oz.; kidneys large and white coloured." Surgeon Kelsall was shortly afterwards ordered abroad, and I have not been able to obtain further details of the case.

The parts were kept in Müller's fluid for some time, and subsequently in spirit. The sections were stained with picocarmine and hæmatoxylin, and were mounted, some in balsam, others in glycerine.

The most marked appearances which present themselves in all the sections are numerous masses, resembling the so-called "*corpora amylacea*" and "colloid bodies," which are interspersed everywhere throughout the nervous tissue. They are of all sizes, from the bulk of a leucocyte to masses twenty times the diameter, and the largest of all are evidently made up by the coalescence of several. They can be seen to occupy spaces amongst the neuroglia fibres, and as they have increased in size the latter have become bulged or pushed aside. In many cases the proper tissues of the part seem to have become absorbed, and have been replaced by one or more of the masses. Some of them are situated near to the blood-vessels, perhaps in the lymphatic channels; but there appears to be no definite or constant arrangement. The smaller ones have generally taken up from the double stain a beautiful blue tint; the larger have remained uncoloured, except sometimes around the circumference. The former are, for the most part, globular in shape, with a more or less distinct boundary, and in structure they are, as a rule, absolutely amorphous. Occasionally, however, I imagine I can make out a condensation in some parts or a faint nucleus. The large masses, on the other hand, are often distinctly granular, and are generally more or less botryoidal in form, with an irregular boundary. The enveloping tissue is sometimes slightly condensed and

more darkly stained in the immediate neighbourhood, and occasionally there is here an increased number of small cell elements. What the exact nature of these masses may be I am at a loss to say. They are unaffected by alcohol and ether and dilute KHO, and are certainly not fat; they are more probably protoplasmic. The text books give but little information on the subject; and here, as in many other cases, the writers differ. In his "Diseases of the Nervous System," Dr. Ross, speaking of "colloid bodies," says—"It is probable that these bodies may be the results of *post-mortem* decomposition, and neither they nor the 'amyloid corpuscles' afford trustworthy evidences of disease." On the other hand, Heitzmann, in his recently published "Microscopical Morphology," states—"In the arachnoid of a man whose brain, crowded with these corpuscles, was in the condition of the so-called 'gray atrophy,' I could trace the origin of these from medullary elements which had arisen in the fibrous tissue of the arachnoid in consequence evidently of a slight inflammatory process." The appearances observed in my sections seem to me to point rather to the latter view—i.e., to an *ante-mortem* origin. But whether they are to be considered due to degenerative changes, or to a new deposit, I have but little evidence to offer. As will be seen further on, I have found these so-called "amylaceous corpuscles" in the pons in a second instance of diabetes mellitus, and Dr. Shingleton Smith has recorded their occurrence in the spinal cord of another case. There is no reason, however, to assume that they have any especial relation to this disease.

With regard to Dr. Dickinson's perivascular enlargements, the blood-vessels of these sections generally show a well-defined ensheathing lymph channel. In some cases the space is certainly exaggerated, but nearly always when this occurs there is a tear in the vicinity, which indicates a mechanical alteration of the histological relations.

The second case from which sections were obtained is that now brought before the Academy by Dr. Duffey. The organs examined were the pons, cerebellum, pancreas, mesenteric gland, liver, kidney, lung, and muscles of the left ventricle of the heart. The sections were treated as in the above instances.

*Pons and Cerebellum.*—A marked turgescence of the vessels is the first thing observable. They are engorged with blood, and the lymph spaces around them are without doubt considerably widened. A few of the blue stained irregular masses are to be seen



peripherally in the pons, in contiguity to the blood-vessels. None are observable in the cerebellum.

*Pancreas.*—The proper substance of the gland is quite gone, and nowhere are to be found either ducts or alveoli. The mass is made up of loose connective-tissue trabeculæ, with large tracts intervening. These meshes contain groups of large irregular nucleated cells, interspersed with smaller cells and nuclei. The latter are often crowded together, appearing like lymphoid tissue, among the fibres of the trabeculæ. There can be little doubt as to the carcinomatous nature of the growth.

*Mesenteric Gland.*—Scattered amongst the lymphoid tissue are the same large, irregular nucleated cells, singly or in masses.

*Liver.*—The liver cells are comparatively small, and the intercellular spaces large. In places there seems an inflammatory increase of the connective tissue.

*Kidney.*—There is great hypertrophy of the intertubular connective tissue, with dense inflammatory infiltration, and some fatty degeneration in parts. The tubular epithelium appears for the most part unhealthy—sometimes broken up, and often with the nuclei not taking the stain.

*Lung.*—Portions of hepatised patches of lung were examined. The usual appearances of pneumonia are present, proliferating epithelium, and masses of round cells occluding the alveoli. The blood-vessels are filled with blood-cells or with coagula; but there is no evidence of fatty embolism.

*Heart Muscle.*—The fibres are rather granular, but without fatty degeneration.

ART. XX.—*Brachial Monoplegia with Anæsthesia.*\* By C. J. NIXON, M.B., LL.D., Dubl.; F.K.Q.C.P.; Senior Physician to the Mater Misericordiæ Hospital.

THE following are the notes of a case of left brachial monoplegia occurring in a patient whom I have the honour of exhibiting to the Section. The case is a remarkable one in some respects, especially in the irregularly distributed area of cutaneous anæsthesia which exists:—

CASE.—Margaret O., aged nineteen, a domestic servant, was admitted into the Mater Misericordiæ Hospital on the 23rd of October last, com-

\* Read before the Medical Section of the Academy of Medicine in Ireland, December 14, 1883.

plaining of loss of power in the entire of her left arm. She had been in good health up to the 23rd of last May, had never suffered from any form of menstrual derangement, and was quite able to do her work as housemaid and laundress with efficiency. Her family history was satisfactory; both her parents are living and healthy, and her brothers and sisters, in all ten in number, are free from nervous and other diseases. On the morning of the 23rd of May she states that after washing clothes in hot water for some time, she put her hands and forearms into cold water; she did this without any assignable reason. Immediately afterwards, on returning to the wash-tub, she found to her surprise that she could not feel the hot suds with the left hand. Alarmed at this, she proceeded to pump some cold water on her hand, but after a lapse of about five or six minutes she found that the feeling of numbness which had seized the hand extended up to the elbow. During the evening there was some weakness of the forearm, though not to any marked degree. She was able to milk ten cows, but she had some difficulty in holding any heavy weight in the hand. There was no pain of any kind experienced. On the following morning she found on awakening that the entire arm was cold and stiff, and that the feeling of numbness had extended up to the shoulder, but she still retained sufficient power in the arm to get through her morning work. After milking some cows the arm became powerless; she felt it as if it were frozen, and she was obliged to carry it in a sling. About a week afterwards the numbness extended backwards around the left shoulder, and in the course of twenty-four hours it spread over the entire of the left side of the thorax, and as far downwards as the crest of the left ilium. Over all these parts she had the disagreeable sensation of coldness, though not to the same extent as in the arm. Seven weeks after the beginning of the attack the numbness extended to left side of the neck, face, and part of the left ear, but in these parts there was no sensation of coldness experienced. From the beginning of her illness she was put under medical treatment. She had been a patient in the Union Hospital for three weeks, but, not finding any change in her condition, she desired to come to Dublin, and was sent to me by Dr. Ryan, of Limerick, under whose care she had been. She states that after leaving the Union Hospital she remarked that on taking the least exercise, and sometimes whilst lying in bed, the parts affected with numbness perspired freely, whilst the unaffected parts remained perfectly dry.

Her present condition, which has not altered materially since admission to hospital, I have tabulated under the following headings:—

*Motor Function.*—There is considerable paresis of the entire of the left arm, and the position in which it is held by the patient indicates great powerlessness. She cannot in the least degree open out her fingers, though she can fairly well extend the hand upon the wrist. The grasping

power registered by the dynamometer is only 7 lbs. She can with difficulty flex and extend the forearm upon the arm, but the movements of the shoulder are weaker and more limited than those effected at the wrist and elbow. There is no rigidity whatever evinced on any movement of the arm. The electrical contractility of the muscles to the continuous and faradic currents is normal. There is no evidence of motor paralysis anywhere except in the left arm.

*Sensory Function.*—The patient has still the feeling of coldness and numbness in left arm and left side of chest and abdomen, and she states it is increasing in area. Over the parts mentioned there is complete absence of tactile sensibility. She can bear without feeling the severest pinching of the skin, the application to the surface of a needle heated to redness, and the passage through the skin of a secondary induced current of great intensity, given with the brush rheophore. On the left side of the face tactile sensibility is lost as far as the mesial line, but common sensibility is not impaired to the same extent as in the arm. The completely anæsthetic parts show no tendency to bleed; a needle passed through the skin of the hand produced not the slightest oozing of blood.

*Vasomotor Function and Temperature.*—The left hand and forearm present a marked contrast in appearance to those of the right limb, being of a dusky red colour, which at times amounts almost to lividity, whilst the temperature is sensibly lowered. Within the past week some evidences of trophic disturbance have shown themselves in the form of localised, red, dense patches on the fingers, like in character to chilblains.

*Special Senses ; Sight.*—A very careful examination of the patient's field of vision was made by Mr. Story. He found it somewhat limited, but not to any marked degree. There was no evidence of colour-blindness. The conjunctiva and cornea of the left eye were completely anæsthetic. No reflex closure of the lids followed touching the cornea with the finger, though the touch produced a secretion of tears. There was no difference, in this respect, between the left and the right eye.

*Taste.*—The sense of taste is normal. The application of vinegar to the left side of the tongue is followed by a free secretion of saliva from the sublingual gland. There is no anæsthesia of the mucous membrane of the mouth or palate.

*Hearing.*—There are no signs of any implication of this sense.

*Smell.*—The sense of smell appears to be diminished equally in both nostrils. The patient could not at all distinguish the smell of vinegar, but she could recognise the odour of strong ammonia, which at once caused her to sneeze. There was complete tactile anæsthesia over the left anterior naris.

I may further add that the patient has no evidence of any disturbance referable to the generative system; there is no ovarian tenderness, and the menstrual function is in all respects normal. The girl is of a quiet,

retiring disposition, and is apparently most anxious to get cured, so as to be able to resume her former occupation.

The point of interest in the case lies obviously in the determination of the cause of the existing phenomena. It is, I conceive, impossible to fix upon any definite local lesion in the brain or spinal cord that would account for the motor and sensory paralysis which is present. The sensory paralysis involves a portion of the fifth nerve, the cutaneous nervous distribution on one side of the neck and thorax, part of the left side of the abdomen, and the entire of the left upper limb, whilst there is a very complete motor paresis of the arm and forearm. No local implication of the peduncular fibres or the fibres of Gratiolet by any lesion that we know of can explain this distribution of motor and sensory paralysis, whilst the mere assumption that the case is one of hysterical paralysis affords no explanation except we admit some morbid anatomical basis to satisfy the conditions which exist. The phenomena of hysteria have been accounted for by the assumption that the irritability of the cells in the cortex of the brain may be increased, diminished, or altogether lost, though we cannot as yet determine what it is that leads to their altered conditions. Most probably they are due to alterations in the circulation: thus any disturbance in the circulation through the middle cerebral artery would be liable to affect the function of the motor area, whilst if the posterior cerebral artery was implicated the sensory area in the cortex would have its nutrition disturbed. It must, however, be admitted that this view of the pathology of certain hysterical phenomena is purely hypothetical, quite as much so as the view that they may be accounted for by reflex or inhibitory influences. One fact seems to have been established by Charcot, that coarse morbid anatomical changes in the nerve centres may follow hysterical manifestations—as, for instance, in the case recorded by him where symmetrical lateral sclerosis was found to follow prolonged hysterical contraction of the limbs.

I may remark that the case is interesting, if it belong to the class of hysterical paralysis, because the train of symptoms most usually present in hysteria was absent. There were no evidences anywhere of hyperæsthesia, no disturbance of the uterine functions, no ovarian tenderness, and no psychical disturbance of any kind. The girl was most unobtrusive in manner, and gave no evidence of any morbid craving for sympathy or the existence of depraved ideas of any kind. The possibility of the case being one of neuritis,

commencing in the brachial plexus and extending to the cervical plexus and to the intercostal nerves, is suggested by the way in which the lesion commenced, and by the evidences of trophic disturbances which showed themselves on the fingers of the paralysed hand. This view, however, cannot account for the partial implication of the sensory division of the left fifth nerve, except, indeed, we were to admit the possibility of an extension of the neuritis *per contiguitatem* to some fibres of the fifth nerve which communicate on the face with branches of the cervical plexus.

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ART. XXI.—*On Some Antiseptic Experiments in a Mortuary Vault.*\* By CHARLES A. CAMERON, M.D., F.R.C.S.I.; Vice-President of the Institute of Chemistry of Great Britain and Ireland, &c.

THE antiseptic properties of the mortuary vaults of the Church of St. Michan, Dublin, are well known. The bodies of persons placed in them appear to undergo a species of desiccation rather than of putrefactive fermentation and decay. There are mortuary vaults in other parts of the world in which a similar partial preservation of bodies takes place.

It has not been proved that the antiseptic properties of the vaults of St. Michan's Church are due to the excessive dryness of their atmosphere, or to the nature of the soil, or to any other assumed or suggested cause. I am not now going to discuss this question further than to suggest that the antiseptic properties of the vaults may be due partly to their undoubted dryness, partly to the great freedom of their atmosphere from dust. Some years ago it occurred to me that it would be desirable to ascertain whether or not the fermentation of unstable infusions of organic matter would take place as readily in these vaults as in ordinary places. Accordingly I made the experiment, of which the following are the details and results:—

An infusion of melon in distilled water was prepared; a portion of it evaporated to dryness left a solid residue amounting to 0·84 per cent. This liquid was introduced into eighteen of Tyndall's tubes, and the contents of the tubes were sterilised. This process was effected in the following manner:—The tubes were immersed for half an hour in a paraffin bath heated to 300° Fahr., and whilst

\* Read before the Sub-Section of State Medicine of the Academy of Medicine in Ireland, Thursday, April 10, 1884.

at this temperature their orifices were sealed by means of the gas blow-pipe. It was concluded that by this treatment the spores or ova of any organisms that might have existed in the infusion were rendered incapable of further development. The tubes were kept intact for a week. On the second day the contents of two of them became very slightly clouded, and on the sixth day quite opaque from an abundant development of mycelium. It was clear that the contents of these tubes escaped being sterilised. The contents of the remaining tubes were perfectly clear. On the seventh day four of the tubes were opened by breaking the ends of their long, narrow necks, and the air of the laboratory allowed free access to them. In two days their liquid contents became clouded, and in about a week's time they became so thick that they could not be poured out.

On the eighth day the remaining twelve tubes were arranged in a stand, and placed in one of the vaults of St. Michan's Church. The Rector, the Rev. Mr. Long, kindly entrusted to me the key of the vault, which I kept until the completion of the experiment. I selected one of the driest of the vaults. My *modus operandi* in depositing the tubes was as follows:—I opened the door of the vault as gently as I could, and passed gently into the portion most remote from the door, and I remained as motionless as I could for a space of about twenty minutes. I then lighted a spirit lamp, and having heated a pincers in the flame, I nipped the necks of ten of the tubes, so as to expose their contents to the air. I then emerged from the vault as quietly as I possibly could. The slowness and gentleness of my movements were, of course, with the object of disturbing the air of the vault as slightly as possible.

No person entered the vault after this procedure until six weeks had elapsed, when, on the day of 13th August, 1879, it was again invaded by myself. On this occasion I was accompanied by Dr. E. Lapper, Lecturer on Chemistry in the Ledwich School of Medicine. We removed the tubes to the open air, and examined them. In five of them the contents were very opaque and mucilaginous. The contents of the remaining seven tubes were quite clear, and exhibited no signs of fermentation. Two of these tubes had remained sealed. These tubes were conveyed to the laboratory of the Royal College of Surgeons, where, in the course of a few days, their contents became turbid and mucilaginous.

I hesitate somewhat in drawing any positive conclusion from this experiment. The results certainly show that an organic

infusion remained without undergoing fermentative changes for a period of six weeks during warm weather. What was the cause of this stability? It was clearly not due to the air of the vault being dry, for the object preserved was a liquid. It would seem to be due to the comparative freedom of the atmosphere from floating particles. The stillness in the vault is remarkable. The dust which enters it soon settles down gently. But, then, five of the tubes contained turbid liquid. It is evident that germs from the air found their way into these tubes through their narrow necks. The air, then, was not quite free from floating germs. On lofty situations in Alpine regions Tyndall found the air so pure and free from dust that organic liquids exposed for months to the air remained unfermented. It may be that the air in the vaults of St. Michan's Church is very free from dust, and that it is owing to this cause that organic matter does not freely decompose in them. I am disposed to believe that, in the case of dead bodies, the dryness of the air is a factor in the preservation of the bodies. A coffin containing a body was removed from the soil of a graveyard, and deposited in one of these vaults. It was soon covered with large masses of moulds. After a while the damp coffin became dry, and in process of time the moulds, the natural habitats of which are damp situations, disappeared.

In conclusion, I venture to think that the results of my anti-septic experiments in a mortuary vault, long unpublished, are sufficiently interesting to warrant my bringing them under the notice of the Academy of Medicine. I trust that the recital of them may induce other persons to institute experiments in these very interesting vaults.

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ART. XXII.—*Remarks on Some Cases of Bronchitis.*\* By GEORGE ST. GEORGE, M.K.Q.C.P.I., L.R.C.S. Edin.; Surgeon to the County Antrim Infirmary.

BRONCHITIS is a very prevalent complaint, and not only is it of frequent occurrence in different persons, but one of its chief characteristics—and perhaps its most formidable one—is its great tendency to recur again and again in the same person, and often at the same periods of time, the attacks increasing in severity and duration from year to year, until at length the sufferer is scarcely

\* Read before the Ulster Medical Society, January 8, 1884.

ever entirely free from their effects, and becomes gradually disabled from all active employments.

Moreover, in estimating the importance of a thorough study of this disease, we must not overlook the fact of its peculiarly wide and intimate relations with other diseases both of the lungs and of other organs, and with several of the commonest forms of dyscrasia to which the human frame is liable.

Bronchitis, as we are all well aware, is essentially an inflammatory affection of the bronchial mucous membrane, attended with more or less of flux from the inflamed surfaces. As regards its usual symptoms and physical signs, I shall not now enter into any separate detailed exposition: we are all familiar with them; and it will be more convenient to incorporate any explanations which I may deem it desirable to make on these points with other practical comments on the cases which I shall quote in illustration of my subject. But though bronchitis is always manifested by somewhat similar symptoms, and is therefore pathologically known by one name, it is by no means of uniform character in different persons, but varies much in extent, intensity, and duration. Thus it may be limited to the larger bronchial tree, or it may extend to the capillary tubes. It may be a more or less severe, acute attack, running a comparatively rapid course, and ending in perfect recovery; or it may assume a sub-acute or a chronic form, and its duration be indefinitely protracted. In its severer forms it is a very fatal disease, especially to the young, the delicate, and the aged. In its milder forms it is attended by no immediate danger to life; but as a bronchial membrane which has once been inflamed is very prone to a recurrence of inflammation from comparatively slight causes, even a mild attack of bronchitis may, especially in persons whose health is otherwise not perfect, become the starting-point of a chronic bronchial affection, and thus lay the foundation for a life-long delicacy, or for various secondary ailments.

In the next place, although the general symptoms of bronchitis are always very similar, inasmuch as it is always the same structure which is the seat of irritation, this irritation may be produced by various causes—some proceeding from without, and others from within the organism—some accidental, and others constitutional. One cause, above all others, produces, especially in this locality, an immense amount of bronchial disease—I refer to the fine dust and fluff inhaled by the operatives in the large flax spinning mills of this and neighbouring towns. Vicissitudes of weather and



exposure to cold or damp are, however, generally regarded as the only exciting causes of bronchitis. Sometimes such exposure is, in fact, the only cause, as when an attack of bronchitis results from remaining for some time wet-shod, getting chilled, or wet through on a journey, or else from passing, without proper precautions, from the hot, dry air of a house to the cold or damp atmosphere out of doors. And again, it is notorious that vicissitudes of weather, such as the setting in of a cold, biting east wind after great heat, often serve as an exciting cause of bronchitis. Nevertheless there can be no doubt that in the majority of cases such causes only excite the disease when a strong predisposition to it already exists, either from some constitutional derangement of health, or else from delicacy of the bronchial membrane consequent on previous attacks of bronchitis or on long-standing local irritation arising from the inhalation of dust, &c. I am, besides, well assured from careful observation that bronchitis is sometimes the direct consequence of some constitutional vice apart from exposure to any external exciting cause. In confirmation of this opinion I may remind you that bronchitis, although certainly far more prevalent in the colder season of the year, is by no means peculiar to it, and in some cases even has a definite tendency to recur periodically in summer instead of winter, and usually on such periodical recurrence to be associated with some well-marked constitutional disorder. I have already alluded to the intimate relations between bronchitis and various other ailments, local and constitutional. These relations may be either of cause or consequence, as when, on the one hand, bronchitis produces some secondary lesion either of the lungs or heart, or some more remote sequence, such as disease of the liver or kidneys; or when, on the other hand, bronchitis is itself the secondary result of some constitutional vice, such as gout, syphilis, or some local affection, such as cardiac or renal disease. Bronchitis may thus be either a primary or a secondary affection—primary, as when it is the result of exposure, or when the irritation, excited by the inhalation of dust, &c., develops the disease; secondary, as when the bronchial affection arises out of some previously existing ailment, such as any of those I have just mentioned. Again, bronchitis may be associated as a complication with other diseases, as measles or whooping-cough, or with other pulmonary affections, such as pneumonia or phthisis.

The subject indeed is such a wide one that I do not purpose, neither would it be possible for me, to enter into its consideration

exhaustively in the compass of a paper like this; but I make these few observations with the hope of drawing attention to the great practical importance of studying a disease, the variety of causes, complications, and consequences of which must obviously render the diagnosis, prognosis, and treatment equally various in different cases.

In order to bring the several relations of bronchitis to which I have alluded more plainly before you, I will, with your permission, read notes of a few cases illustrative of them, which have come under my notice in the County Antrim Infirmary, and in my private practice:—

CASE I.—D. L., aged thirty-six, mechanic, was admitted under my care into the Co. Antrim Infirmary, on June 16th, 1880. About six years previously, after a very warm day's work, and while still perspiring freely, he bathed in the River Lagan. He was attacked at that time with a severe cold, and since then has been subject to a cough, from which indeed he is now seldom free. This chronic cough is at any time easily aggravated by exposure; and he has been laid up more or less with it every winter. There is no family history of phthisis, and he has never suffered from gout or rheumatism, nor indeed from any other ailment, except bronchitis. On admission he complained of dyspnœa, and had a frequent hard cough, attended by the expectoration of a thin, transparent, frothy mucus, mixed with opaque yellow masses; skin cool; pulse 72. The chest was well formed, and rose equally and evenly on both sides during inspiration, but the breathing was laborious, the sterno-mastoid and scaleni muscles acting powerfully as elevators during inspiration, and the supra-clavicular regions being depressed at the same time. But although the breathing was thus difficult, it was not accelerated in proportion, there being only twenty-four respirations per minute. These symptoms are all characteristic of bronchitis. Both in pneumonia and progressive phthisis the skin is usually pungently hot; whereas, even in the febrile stage of acute bronchitis, when uncomplicated with either pneumonia or tubercle, although the temperature may be raised, the skin seldom conveys to the hand any remarkable sensation of heat; and in cases such as this one, frequently does not exceed the normal warmth. The pulse also in bronchitis never rises as high as in phthisis or pneumonia; and very often, in cases of a chronic character, does not exceed the normal frequency.

Again, though the respiration is generally much quicker in the other pulmonary diseases than it is in bronchitis, yet it is never so laborious. Even, with greatly accelerated respiration, patients suffering from pneumonia are often not conscious of dyspnœa; whereas, in severe

bronchitis, laborious breathing is the rule. With respect to the nature of the expectoration, the thin, transparent, frothy expectoration is indicative of recent bronchitis, or rather of a recent attack engrafted on an *old* chronic affection, as is shown by the frothy expectoration being mixed with the opaque yellow mucus characteristic of chronic bronchitis. In order to complete the history of this case there are two other points to which I must allude. The front of the chest was resonant on percussion from apex to base on both sides; distinct pulmonary resonance being elicited by percussion, even over the cardiac region. The percussion note was also clear posteriorly. The respiration was feebly heard over the left mammary region; in other places it was sometimes harsh, and it was everywhere more or less sibilant. The heart was seen beating immediately below the xiphoid cartilage. The heart sounds were feeble, but free from murmurs. This displacement of the heart was evidently due to emphysema, the presence of which was indicated by the abnormal clearness over the whole front of the chest, with slight enlargement of the right side of the heart. As regards the treatment and progress of this patient, I may say that he improved under a mild antiphlogistic and tonic treatment, consisting of at first the following mixture three times a day:—

R. Tr. scillæ, ℥. xv.  
 Sp. æther. nitr., ʒj.  
 Liq. amm. acet., ʒij.  
 Tr. hyoscyam., ʒss.  
 Aq. camph., ad ʒj. M.

As soon as the urgent symptoms had subsided, I substituted the following:—

R. Acid. nitro-hydrochl. dil., ℥. x.  
 Tr. hyoscyam.  
 Tr. laricis, āā. ʒss.  
 Inf. gent. c., ad ʒj. M.

To be taken three times a day.

Under this treatment he improved, and was discharged, relieved, in about six weeks.

This case belongs to a class in which great benefit may be derived from medical treatment during exacerbations of the bronchial affection, and in which much may be done by care and proper management to retard the progress of the disease; but in which the disease itself has too firm a hold to give us much hope of being able to effect a permanent cure, especially in persons liable to exposure. I have little doubt that on the first such occasion my patient will suffer a fresh return of his malady, and find his way for relief to me, or some other medical man.

I will now draw your attention to a case drawn from a class very common in this part of Ireland; I allude to bronchitis caused by the inhalation of dust mixed with fine particles of flax.

CASE II.—R. M., aged forty, hackler, was admitted under my care into the Co. Antrim Infirmary on April 20th, 1883. His work consists in drawing the flax after it has been scutched through a series of iron pins, so as to remove the rougher parts. As the workman stands before these pins, and swings the flax up and down in front of his face, it is evident that a large quantity of the fine particles must be constantly inhaled.

Attempts have been made to induce the flax-dressers to wear respirators whilst at their work, but to no purpose.

He had long suffered from cough and tightness of breathing, and latterly also from difficulty of breathing.

At the time of his admission his skin was cool, and pulse quiet, the expectoration scanty, opaque, and of a yellow colour. The chest was resonant on percussion, both in the anterior and scapular regions; but there was a slight degree of dulness over the bases of both lungs posteriorly. The respiration was feeble in the apex of the right lung, and harsh in the apex of the left. The respiration was tubular near the right nipple, and coarse crepitation was heard over a limited space near the left. There was fine crepitation in the base of the right lung, and a large mucous r le in the corresponding part of the left; urine normal. He was ordered a mixture, containing in each dose, three times a day—

R. Ammon. carb., gr. 5.

Tr. scill .

Tr. camph. c.   , m. xv.

Inf. seneg , ad  j. M.

In about a fortnight, as he had improved, I gave him two drachms of cod-liver oil after each meal, and as a tonic before food a mixture containing—

R. Acid. nitro-hydrochl. dil.

Tr. camph. c.   , m. x.

Vin. ipecac., m. vi.

Inf. gent. co., ad  j. M.

I carefully examined him on the 22nd May, when I found the cough and dyspno  greatly decreased. The moist sounds in the base of the left lung had given place to harsh dry respiration. The crepitation near the left nipple had disappeared, and the fine crepitation in the base of the right lung had become coarser, and less extensive. He continued to improve until the end of June, when he considered himself convalescent, and resumed his work.

I had under my care about two years before this a patient who remained longer under my care, and the history of whose case is more conclusive as to the cause of his complaint and the remedy for it.

CASE III.—J. W., aged twenty-two, a flax-dresser in a mill in Lisburn, consulted me on the 12th June, 1879. His work was much the same as that of the preceding case.

He had only followed this employment for eighteen months, and had previously been quite healthy, but had frequently during the year previous suffered from bronchial irritation. For several months before he had consulted me he had been troubled with much difficulty of breathing, and dry cough, attended by an opaque muco-purulent expectoration, which of late had been frequently streaked with blood.

On examination, he had a follicular sore throat, and a husky voice. His chest was well formed and normally resonant on percussion over its whole anterior aspect; posteriorly the resonance was also normal. The respiration was dry and sibilant in front; sonorous rhonchus was audible behind. Over the lower lobes of both lungs, and on the left side as high as the scapula, no moist sounds were anywhere heard. He was put on nearly the same medical treatment as the last patient, and was advised to change his occupation, which, in the meantime, he promised to discontinue. On June 26th the cough and expectoration had decreased. Rhonchus was still audible between the scapulæ, and in the lower lobes of both lungs. The respiration over the front of the chest was still dry and sibilant; expiration prolonged. By July 9th the rhonchus in the back had much diminished; he then went to Newcastle for change of air, and, on his return, reported himself quite well, and resumed his work, which he persevered in for several weeks. On Sept. 11th he returned with much cough, shortness of breath, and wheezing, especially at night.

The expectoration was more copious than before, thin, and frothy. He said his present attack had come on gradually, the first symptoms having been pain, and oppression over the sternum, which had appeared almost as soon he recommenced work. There was no hæmoptysis. His chest was still normally resonant on percussion; but the respiration was harsh and sibilant as before.

I warned him again, that if he wished to enjoy good health, he must give up his present employment. On Sept. 25th he reported to me that he was greatly relieved, and on October 16th he informed me that he had obtained work in another part of the factory, where he was free from dust, and there was already a manifest improvement in his symptoms—the cough and expectoration having much abated. I have had many opportunities of seeing him since, and he has continued in fair health.

We cannot fail to remark the very different degrees of rapidity with which this disease advances, and we perceive that this difference is due in part to more or less frequent occurrence of catarrhal accidents. Other circumstances peculiar to the patient—such as age, habits of life, and constitutional tendencies—are not without great effect on the progress and course of the disease, and of these the last-named especially exercise a most important influence in promoting and modifying its development. We can easily understand that the existence of any constitutional conditions must lessen the power of resistance, in the bronchial membrane, to the mechanical irritation exerted upon it, and thereby not only hasten the development of the disease, but add to its severity. On the other hand, if there be any tendency to tubercular disease, I can conceive nothing more likely to light it up in the lungs than such bronchitic irritation; and I have, in fact, in a few instances, seen the constitutional tendency and the mechanical existing cause in operation together, and have only been enabled by the history of the case to determine the coexistence of the two factors. The cases I have referred to are drawn from the poorer classes, but I am persuaded that the causes of the bronchial affection in all these patients are, within certain limits, in much commoner operation than might at first sight be supposed. Few private patients are exposed to these noxious influences in sufficient intensity to excite bronchitis directly, but very many unsuspectingly inhale dust or impure air to a degree which gradually produces slight bronchitic irritation, and renders them exceedingly liable to contract bronchitis on being exposed to any exciting cause.

Even the habitual travelling along a dusty road is apt to have this effect, and the constant breathing of hot and dry air in dwelling-rooms, especially if combined, as is too common, with imperfect ventilation, is a fruitful source of the same tendency. The employment of gas in apartments, unless proper appliances be in use for carrying off the products of combustion and for admitting fresh supplies of pure air, produce a dangerous state of the atmosphere. These are things of no small consequence to be borne in mind in private practice.

It is still common for bronchitic patients to shut themselves up in close, hot rooms, and breathe impure air, with the idea that by so doing they are thereby avoiding draughts, although, in fact, they are aggravating their ailments by so doing, and retarding their cure.

No doubt there are cases in which we find it necessary to keep our patients for a time in an artificial temperature, but we should take care that while the air of the apartment is warm it should never be allowed to become dry. Even the simple device of keeping a kettle of boiling water on the fire, with a tube long enough to throw a constant jet of steam into the room, will suffice to moisten the air, and with proper contrivances ventilation may be always obtained without danger to the most susceptible patient. By far the greater number of bronchitic patients, however, actually do better when not kept in rooms at too high a temperature, inasmuch as they sustain less injury to their general health, and are able to go about earlier, and with less risk of taking cold from any slight exposure, than those who have been so confined. It is not so much a warm as a moist atmosphere that is needed by bronchitic patients, with ample protection from chilling of the surface, and this may be secured by suitable clothing. In fact, as a rule, I have found that, all things being equal, bronchitis is slower in its progress, and less speedily affects the general health, in persons whose duties take them much out of doors, than in those who, from their in-door employments, would generally be presumed to be less exposed to causes of taking cold, and less liable to attacks of their complaint.

I will now make a few remarks on the treatment of the class of patients I have brought under notice. When patients come under my care with an acute attack of bronchitis, I find it best to act on the skin, to promote expectoration, and relieve the inflamed mucous membrane. For this purpose, if the pulse be of good volume, and the patient's strength not impaired, I give a mild diaphoretic mixture of Mindererus' spirit, antimonial wine, and tincture of henbane, and occasionally a little ipecacuanha wine. If, however, the patient be depressed, I give the vinum ipecacuanhæ without the antimony. Later on, or in less acute cases, I find the more stimulating expectorants, as squill, the most effectual; but in almost all cases, especially in chronic bronchitis, a time arrives when expectorants cease to be useful. The expectoration indeed continues, but it rather is of the nature of a habitual flux than the result of active irritation.

The treatment now requires to be of a tonic character, and though zinc, iron, or quinine, are all useful, I have found the mineral acids, especially the dilute nitro-hydrochloric acid, in combination with a vegetable bitter, as quassia or gentian, the most

advantageous. In chronic cases attended by very copious expectoration, balsamic remedies, as gum ammoniacum, &c., are often of service, but I have found them, as a rule, apt to disagree with the stomach, and as the digestive powers are in such cases often feeble, I have been accustomed to give tincture of larch in mixture, or tar in two-grain pills, which never disagrees, and is equally, if not more serviceable to the bronchial affection.

Its effect is not only to lessen the expectoration, but also apparently to restore the debilitated membrane to a more healthy tone, and to render patients less liable to attacks of catarrh.

Useful as medicines undoubtedly are in allaying or curing attacks of bronchitis, I need hardly tell you that whenever the bronchial affection is even partially referable to an existing external cause, no permanent good can be effected without the removal of that cause.

Amongst the working classes it is often impossible to accomplish a change of employment, though I have seen cases, such as the one I have related, in which a change of occupation has been effected, and the patients have recovered; but amongst the higher classes much may be accomplished—I say whenever the bronchial affection is even partially referable to an external cause, because, as I have said before, cases of primary bronchitis are comparatively rare. Even amongst hospital patients external causes in a large majority of cases only develop or aggravate constitutional or hereditary tendencies to bronchial disease, and this naturally obtains more among the upper classes, who are exposed to such causes only in slighter degrees.

Time will not permit me to do more than refer to a few cases of gouty bronchitis. I have mentioned before that in a large number of cases bronchitis is a secondary, and not a primary disease—that is to say, a disease arising out of some other previously existing ailment or constitutional dyscrasia.

As in the beginning of this paper I have touched upon examples of primary bronchitis arising solely from exposure to external exciting causes, I now therefore purpose to consider gouty bronchitis. All these cases which I will now refer to have suffered either from gout or chronic rheumatic gout. I am indeed aware that some of our highest authorities consider regular gout and rheumatic gout as entirely different complaints, and no doubt there is a pathological distinction between them, but clinically regarded they are allied ailments affecting the same tissues, and



often seeming to occur in members of the same family as manifestations of a common hereditary diathesis.

CASE IV.—E. M'K., a carpenter, aged fifty, became a patient in the County Antrim Infirmary, on Dec. 1st, 1882. His father had been a butler, and suffered from gout, and died from asthma, aged sixty-six. One of his brothers suffers from rheumatism, and another from chronic bronchitis.

The patient himself had had several attacks of rheumatism and sciatica. He had also for years been subject to a severe cough in winter, which usually began in October, and lasted till March. The cough was attended with much dyspnœa, and by frequent paroxysms of the same at night.

These generally came on at one or two o'clock in the morning, after he had been asleep, compelling him to sit up in bed for a longer or shorter time. The paroxysms of dyspnœa are not, as a rule, common in bronchitis.

Dr. Graves, in his "Clinical Lectures," says that he scarcely ever met with a patient who had been subject to chronic bronchitis who did not also labour under more or less asthmatic dyspnœa, but it is more than probable that Dr. Graves used the term for the dyspnœa, which is commonly attendant on chronic bronchitis, especially when complicated either with pulmonary emphysema or with cardiac disease, and which is only paroxysmal, inasmuch as it is aggravated by every physical exertion, and by every accession of catarrh.

So far as I could learn, it was in this latter sense that my patient applied the term asthmatic to both his parents. At the same time, asthma, like bronchitis, is often connected with a gouty diathesis, and I have no doubt that in this patient this diathesis was the cause of both complaints. At the time of his admission the patient's skin was cool. Pulse, 85; respiration, 36. His cough was troublesome, and his expectoration thin, white, and frothy, but, he said, more generally thick, and of a yellow colour, and had sometimes been streaked with blood.

On examination his chest was found to be broad and deep. The veins of his thorax were turgid, and most markedly on the left side, and respiration was laboured.

He said he was never free from dyspnœa, even in summer, especially in hot weather. The percussion note was clear over the whole front of the chest, especially in the mammary regions, and the clear sound encroached somewhat on the normal cardiac dullness. Posteriorly there was resonance on percussion, excepting over the base of the left lung, where it was slightly deficient. The respiration was harsh, expiration prolonged. Rhonchus was more or less audible over both lungs, and moist sounds were heard with inspiration in the base of the left lung.

The heart's apex was somewhat depressed. His urine was not albuminous. The patient continued under treatment until February, when he was discharged almost well as regards the bronchitis, and without having any return of the symptoms of rheumatism or sciatica.

It is indeed true that the gouty form of dyscrasia is exceedingly common not only amongst private patients, but also the working classes. But, common as it is, gout is found in a very much smaller proportion of the total number of our hospital patients than of the bronchitic class of patients taken by themselves; hence I think I am justified in the conclusion that there is really an intimate relation between a gouty constitution and chronic bronchitis, and that in many cases in which a hereditary tendency to gout has not been developed into the characteristic form of that disease it manifests itself in the form of chronic bronchitis. In further support of these views I may mention that I have frequently known bronchitis and gout or rheumatism habitually to alternate, an obstinate attack of bronchitis sometimes subsiding on the occurrence of a fit of gout, and again at other times a smart fit of gout being relieved by the development of bronchitis.

There was an elderly man for a long time under my care. His ailments were rheumatic gout, eczema, and bronchitis, and he was rarely, if ever, free from some one of them. No two of the three were ever present together; but just as he was congratulating himself on having got rid of the rheumatism, his legs would be attacked with eczema, and this would disappear in a few weeks, to be succeeded by an attack of bronchitis.

I will now mention one or two cases *à propos* of this form of bronchitis:—

CASE V.—H. M'C., a wheelwright, came under my care in 1876. He had then been ailing a year and a half, during which time he had suffered alternately from cough and what he called rheumatic pains in his knees and elbows. At the time of his consulting me he had slight cough and dyspnoea, but he principally complained of gastralgia of some weeks' standing.

The pain came on soon after eating, and was excessively severe. This gastralgia, I may observe, was doubtless but a different manifestation of the same disorder of health which induced the bronchitis and the so-called rheumatic pains. This form of dyspepsia is very common in persons of gouty diathesis, who have never had paroxysms of acute gout, and, like other forms of the disease, may either give place to some new train of gouty symptoms, or be relieved by a fit of gout itself. On this

occasion the patient was soon relieved from his ailments by the use of bismuth, &c., in combination with a bitter infusion, and of small doses of blue pill and rhubarb, but he returned to me on May 27th of the same year, with pain and tenderness in the soles of his feet, and with lepra on the arms and knees. He said he had of late suffered but rarely from gastralgia, and only then in very slight degree; neither had he any cough, but he was not free from dyspnœa. I gave him 10 grains of iodide of potassium, with 5 minims of colchicum wine three times a day, to which, as the pains abated, I added small doses of arsenic. On July 22nd the pains had for some time entirely left him, and the eruption was gradually disappearing, but he had again begun to cough and expectorate, and he complained of increased shortness of breath. The chest was normally resonant, but harsh rhonchus was audible throughout both lungs. He was ordered small doses of liq. arsenici hydrochlorici and acid. hydrochlorici dil. with cod-liver oil, and some extract of hemlock at night to allay the cough.

He was soon relieved, and ceased to visit me. Late in October he again consulted me for lumbago and pains in the knees and elbows, having then no cough, but the lepra, which had never altogether left him, was much increased. As these ailments yielded (after about five weeks' treatment), he once more began to cough, and suffered from bronchitis throughout the winter. On the 20th April, 1877, he was quite free from pain and the lepra, and had only a little cough and expectoration on first rising in the morning. I now put him on a course of dilute nitro-hydrochloric acid and tincture of larch, and he was quite well in June.

I have already said that when bronchitis occurs in persons of gouty diathesis, it frequently happens, on the one hand, that bronchitis makes its appearance on the subsidence of the gouty symptoms; and again, on the other hand, that a fit of gout relieves the bronchitis. The following case illustrates the latter mode of alternation:—

CASE VI.—W. J. B., aged sixty, brewer, was admitted into the County Antrim Infirmary, October 22nd, 1880. He stated that he had for many years been subject to cough and expectoration, with great dyspnœa, in summer as well as in winter, as much in hot as in cold weather. A medium temperature suited him best, extremes always increasing his distress. He had had regular gout for the first time twenty years previously, and said he was in the habit of suffering from gouty pains in the hands and feet, but he was free from them when admitted. He was also subject to occasional psoriasis. On inquiry he admitted that he drank a great deal of beer and porter, as he was brought in contact with it in his business.

The patient himself referred his complaint to exposure to cold during his work, but the sudden appearance of the gout having preceded that of the bronchitis, and it having been accompanied or followed by gout in three attacks out of four, we may reasonably assume that these exposures were, at most, only the immediate exciting causes of irritation in a bronchial membrane already predisposed to disease by existing constitutional derangement. When admitted, he was suffering from a pretty severe attack of bronchitis, attended by much dyspnoea and by a copious frothy expectoration; but he said that though he was never altogether free from expectoration any more than free from cough, it consisted, during the intervals between the more acute attacks, of only a small quantity of thick, transparent, bluish mucus. Now, this is the exact counterpart of what we meet with every day in bronchitis, more particularly in those who have also a gouty constitution. They habitually cough up in the morning, and, it may be, at rare intervals through the day, little pellets of tenacious, bluish, starch-like mucus, sometimes studded with darker specks. This ailment, which may be perhaps almost too slight to attract the patient's notice, is quite compatible with good health in all other respects, but it is nevertheless the proof of an abnormal condition of the bronchial membrane. In the healthy state only just as much fluid is secreted as is necessary to keep the bronchial membrane moist enough for the due performance of respiration. We may therefore safely assume, as a rule, that wherever there is expectoration, however small in quantity, the membrane is not in a state of perfect health, and therefore is far more liable than a membrane in the normal condition to suffer from any intermediate exciting causes of bronchitis of whatever kind. But to return to my patient. I treated him successively with carbonate and infusion of senega, then with dilute nitro-hydrochloric acid, tincture of gentian, ipecacuanha wine, and tincture of henbane.

On December 11th he was in all respects greatly improved, and passed from under my care on January 16th of the next year.

He came to me again on May 6th of the same year, suffering from gout of the fingers of his left hand, and also from cough, attended by the white, frothy, and mucous expectoration characteristic of recent bronchitis. There was also slight cedema of the ankles, but the urine was free from albumen.

The chest was found on examination to be normally resonant on percussion. Sibilus and rhonchus were more or less audible throughout both lungs. The expiration sound was prolonged, especially in the upper lobes, and mucous crepitation was heard in the base of the right lung. Taking into consideration the mixed character of the illness, showing the actual coexistence of gout and bronchitis, I prescribed a combination of medicines calculated to meet both aspects of the case—that is to say, I gave 4 grains each of potassium iodide and carbonate of

ammonia, 10 minims of colchicum wine, and 20 minims each of tinctures of squill and henbane in an ounce of camphor water, three times a day, and 2½ grains each of extract of hemlock and pill of ipecacuanha and squill every night. This is a plan of treatment which, modified according to circumstances, I have found often very serviceable in similar cases, and under it the patient gradually improved; but at the end of a fortnight, his appearance being anæmic, a grain of sulphate of iron was substituted for the ammonia in each dose of his mixture. The gout soon disappeared, but the mucous crepitation in the base of the lung still continuing without change, I ordered him a mixture containing 20 minims each of liquor ferri perchloridi and tincture of henbane, and 10 minims each of vinum ipecacuanhæ and acidum hydrochloricum dilutum in an ounce of infusion of quassia. He now rapidly recovered, and continued well, and was discharged in August.

He next returned on 5th May following, when he was admitted in an almost similar condition. The finger joints were swollen and painful, and he was suffering from cough and dyspnoea. The bronchitis was, however, in a more advanced state, the expectoration being now thick, opaque, and muco-purulent, instead of glairy and frothy, as on his previous admissions. He was treated in a similar manner, but improved more slowly than the year before. The cough varied from time to time; but though better on the whole, was by no means gone when, towards the end of June, he was attacked by gout in a more pronounced and regular form, affecting successively the balls of both great toes, the ankles, and fingers. On the appearance of gout in this acute form the cough and expectoration at once abated, and I ordered him as a mixture, three times a day, the following:—

R. Ferri sulph., granum.

Potass. iodid., gr. 5.

Vin. colchic., m. xv.

Glycerin., 3j.

Aq. menth. pip., ad 3j. M.

and a pill at bed-time, consisting of two grains of acetous extract of colchicum and three grains of Dover's powder.

This treatment he continued, with some modifications, for a month, when he was discharged cured. But his relief was only temporary, as he returned on December 5th. His cough had returned, with much wheezing and dyspnoea, and with the frothy transparent expectoration I have described as characteristic of bronchitis. His skin was cool; pulse 90, but quite regular. The sides of his chest rose evenly in respiration, and were equally and normally resonant on percussion. The heart sounds were normal; rhonchus and sibilus were audible over the lower lobes of both lungs posteriorly, intermixed with faint mucous crepitation in the base of the left lung; urine was normal. At this time he was

quite free from gouty pains, so I ordered him the squill mixture I gave the first patient, with twenty minims of tincture of henbane every six hours. But bearing in mind his gouty tendencies I added a pill at night of colchicum and Dover's powder as before. He soon improved greatly as regards the cough, and the expectoration diminished, and became opaque, and of a bluish colour, but the subsidence of the bronchial affection was again simultaneous with the development of gout, though of a less acute character than on the last occasion, this difference being possibly due to the specific treatment the patient had been undergoing before its appearance. In addition to the night pill he again took the iodide of potassium, carbonate of ammonia, and colchicum wine, and soon ceased to be treated, being quite free from both gout and bronchitis.

Time will not allow me, even if I wished, to bring forward cases showing the true relation which I believe to exist between bronchitis, on the one hand, and gout, eczema, or psoriasis or gravel on the other. All these different maladies evidently depend upon a common humoral dyscrasia, which in one case produces gout, in another gravel, in a third psoriasis, or, as in this last case, bronchitis, coexisting or alternating with one or more of these other ailments. These cases are all therefore examples of what I have called secondary bronchitis—that is to say, bronchitis arising out of some internal condition of the system, that internal condition being, as we have seen, the existence of the humoral dyscrasia, which is known as the cause of gout.

Regarding the treatment of this form of secondary bronchitis, it is clear from the necessarily complicated nature of the subject that I cannot pretend to give any specific directions. The remedies appropriate to the bronchitis and to the other affections must obviously be varied and modified from time to time, in order to meet the constantly varying condition of different patients, and of the same patient at different times. The one essential point towards the successful treatment of all such cases is that we should constantly bear in mind the presence of a constitutional cause for the local affection, and not rest satisfied with directing our efforts towards the removal or alleviation of the bronchitis, but endeavour, as far as possible, to combat the dyscrasia, which is the real source of our patient's ailment.

ART. XXIII.—*What Society has Gained by the Progress of Modern Surgery.*\* By W. I. WHEELER, President of the Royal College of Surgeons in Ireland; President of the Surgical Section of the Academy of Medicine; Doctor of Medicine and Master of Surgery of the University of Dublin; Member of the King and Queen's College of Physicians; Surgeon to and Lecturer on Clinical and Operative Surgery at the City of Dublin Hospital, &c., &c.

SOME days ago, while contemplating a choice of subject for the honour of bringing before you upon this occasion, the realisation was forcibly impressed upon me of the importance and responsibility which my present duty incurs.

The magnitude of this responsibility became more apparent to me as I recalled the names of some of those distinguished gentlemen who, in bygone years, have inaugurated the Surgical Society (of which this Section is a continuation), and I felt that the onerous duty which, by the courtesy of the Fellows of this College, I am now called upon to perform, deserved far more time for its consideration and careful thought than I have been able to devote to it.

It occurred to me that, no matter how cursory or imperfect a review might be of the advantages gained to society by the progress of modern surgery, such a review would prove itself more interesting to those assembled here to-night than would an exhaustive or elaborate portrayal of any individual surgical subject.

How does the surgery of to-day differ from that of sixty, or from that of even much fewer than sixty years ago? The field of surgical art has expanded enormously. Operations which in the past were, by the most eminent members of our profession, considered beyond the province of surgery, are now matters of daily successful accomplishment. Lives are now rescued not only in cases where heretofore they would have been forfeited, but in cases which then also would have been looked upon as beyond assistance. Limbs then destined for amputation are now saved and restored to profitable use.

You will therefore, gentlemen, estimate, as I do, the surgery of to-day to be a far grander and nobler science than was that of former years. Beyond proportion less terrible—deprived, as it has

\* An Address at the opening of the Surgical Section of the Academy of Medicine in Ireland, for the Session 1883-84.

been, by anæsthetics, of its horror and gloom—a surgical operation is no longer the awful trial it once was, but is now an easily bearable penalty—hardly worth consideration when compared with the inestimable advantages gained in the restoration to health and strength. Look back and reflect upon the astonishing changes anæsthesia has brought into surgical management. Contrast the intellectual mental tension a patient must formerly have suffered in the endeavour to command sufficient fortitude necessary for the approaching dreadful ordeal; the frequently most deplorable impressions produced upon the system by the surrounding incidentals, the mental strain, the patient's agonised and crouching appearance; subsequently, the secured limbs, the blindfolded eyes, the prostrate form, and the piteous, involuntary attempts at resistance to the entire circumstances. Contrast, I repeat, the foregoing dark and harrowing tableau with the brighter and far different surroundings attendant upon a modern surgical operation. There you have suffering and horror; here you have a placid appearance, an absence of strain and tension, implicit faith in, and gratitude for, the security we can offer of absolute immunity from pain. The gravest operation can now be awaited without dread; and the operator, reaping from modern surgery equal advantage with the patient, can now do everything requisite with thoughtfulness and effect. There is no necessity for excessive speed, and in skilful hands no apprehension of a faulty issue. The apparently lifeless condition of the patient, from being insensible to suffering, enables the operator, with careful exactness, to trace the furthest ravages of the disease, thereby paving the way to a more excellent and permanent recovery.

The development in the surgery of the abdomen and pelvis presents to modern surgery one of its most significant examples of scientific advance. The operation of ovariectomy is alone sufficient not only to establish this—it also places surgery in the front rank of the progressive sciences. The experience of Dr. Kidd, the distinguished obstetric surgeon of our own city, Sir Spencer Wells, of London, and Dr. Keith, of Edinburgh, is sufficient guarantee, if any such were required, for the increasing success of this operation. The advance even in this one subject is, I repeat, an achievement in surgery unsurpassed in importance by any development of the progressive sciences. Surgical acumen is drawn more prominently into the foreground by the fact that not only diseased ovaries, but almost all the abdominal and pelvic organs, come now within the grasp of the surgeon's art.



Some years ago the region of the peritoneum was all but sacred, and he who infringed upon it would have been regarded in surgery as an incautious experimentalist. With what tumult and disapprobation were greeted the earliest propositions for its more complete manipulation. Ovariectomy was then pronounced to be savage, cruel, and was, without hesitation, freely spoken of as indefensible; this only because the operation necessitated the exposure of the peritoneal cavity.

But, thanks to time, science's great benefactor, we have changed all that; and he who now, with a reasonable chance of saving life, would refrain from disclosing the peritoneal cavity, by doing so would subject himself to just surgical censure.

It is not to be gathered that in modern times we fail to realise the importance and sensitiveness of this membrane—far otherwise; but we wish to show that whilst fully valuing both, we have ascertained that, being ordinarily careful, the peritoneum is equally accessible with the other intricate portions of the human frame, and, further, that its exposure for the remedy of disease, and for restoration to health, is not only admissible, but should not be too hesitatingly determined on.

Have we not further evidence of its tolerance when opened in the operation for obstruction and intussusception—in the successful issues subsequent to gastrotomy and gastrostomy—in abdominal section required for superfoetation—in excision of the pylorus and portions of the large intestines?

I cannot omit mention of the removal of uterine tumours, and of the uterus itself, although of the latter I will not speak with such assurance, the number of instances being limited, and the results not hitherto having inspired sufficient confidence.

In kidney affections the surgeon is now able to combat disease of that organ, and where cysts have been formed by the dilatation of the kidney itself, or by the increase in substance of its surrounding cellular tissue, and communicating with the gland, instances are on record of their having been aspirated, subsequently drained, then injected, and finally extirpation of the organ has been accomplished.

In chronic suppuration also drainage has been established directly from the kidney, and in a case at which I was lately present, more than a pint of pus was drawn off, which continued to flow after the introduction of a drainage tube. Foreign bodies, as stone in the kidney, are now diagnosed and removed. One case of extirpation of

the kidney for malignant disease has come within my knowledge, the patient afterwards succumbing from a return of the affection.

This leads me to calculus in the bladder, and to the operations of lithotomy and lithotrity. The former, until comparatively lately, was considered the only reliable operation for relief from the stone, but lithotrity instruments, at first rude and inefficient, afterwards became so perfected that the crushing operation commenced to gain favour. Up to a very recent date the evacuation of the stone, after three or four crushings, was considered most favourable; but, thanks to Bigelow, we know how tolerant the bladder is of smooth instruments, and now, even at a single sitting, we can evacuate large stones by the method known as "Bigelow's," or litholapaxy. Except in case of children, I believe that lithotrity will, ere long, supersede the more capital operation of lithotomy, and this result will, in my mind, be largely assisted by the growing knowledge of this affection on the part of the public.

I may here conveniently allude to urethral stricture, and also mention some of the operations for its relief. For example, the forcible dilatation of Mr. B. Holt, Mr. Cock's operation, Mr. Furneaux Jordan's, and the procedures of others who dilate from behind, internal urethrotomy, Syme's section, and the excellent operation of Mr. Wheelhouse, of Leeds.

Upon the subject of conservative surgery, now so uniformly practised, I need not dwell. Where, heretofore, a thigh would have been amputated, the knee-joint is now excised; where an arm would then have been removed, excision of the elbow-joint is now resorted to; where a hand would have been lost, the wrist-joint is resected, and such conservatism is not only practicable for diseased but for wounded joints. To Sir W. Fergusson, of London, and Mr. Butcher, of Dublin, too much praise cannot be accorded for their exertions in this especial branch of surgery. In excision of the knee Mr. Davy has adopted a modification of the operation by wedging or embedding one bone into the other—tibio-femoral impaction—thus securing fixity and firm position.

Subcutaneous osteotomy and division of the muscles and tendons is now daily practised. The hip-joint ankylosed at a right angle can be restored to its natural position by subcutaneous section of the thigh bone.

To these may be added the improvements in orthopædic surgery. By the stretching or section of the faulty tendons or excision of the bones of the foot; in genu valgum section of the tibia below its

spine, with removal of a wedge-shaped piece of bone, the fibula being broken or sawn through at the same time; section of the femur above the internal condyle and removal of a wedge-shaped piece of bone, subcutaneous section of internal condyle and straightening of the limb, have been followed by the most excellent results; and although the oscillating gait remains for some time after the operation, the patient ultimately loses it.

Respecting the treatment of dislocations a complete revolution has taken place since the introduction of anæsthetics. There is now no necessity for bleeding to syncope; no large doses of digitalis, tartar emetic, or tobacco to lower the patient, that the surgeon may be enabled to overcome more easily muscular action. The patient lies disabled and helpless; the surgeon, as a rule, by well-directed manipulation, will reduce the dislocation. The patient suffers no constitutional disturbance, and on rousing from the influence of the anæsthetic, finds that his dislocation has been reduced without any suffering or torture. I cannot, however, agree with the experience of the writer in "*Holmes' System of Surgery*," who states that he never saw the pulleys succeed in an old dislocation.

Of the joining of divided nerves we have ample proof, even the cut ends of nerves as large as the sciatic being sutured, from which complete restoration has resulted. The advantages of nerve-stretching in traumatic tetanus has been already advocated in this Hall, and would appear to act by numbing the nerve that has been wounded or irritated, and thus preventing transmission of further irritation to the spinal cord. I cannot, however, speak favourably of this operation in progressive locomotor ataxy. Although advocated, it is contrary to all physiological reason that any effect could be produced in the cord, altered as it has been structurally, and the cases that have been operated on, as far as I can ascertain, have been benefited only in the imagination of the operators.

*Bloodless Surgery.*—No greater boon has been conferred upon surgery than the power of controlling hæmorrhage and of arresting arterial blood, for many of our surgical proceedings have been retarded by the effusion of blood—increasing greatly the surgeon's difficulties, as well as endangering the patient. The introduction and employment of the tourniquet for controlling arterial bleeding marks an important epoch in the annals of surgery; but this instrument is by no means adequate to our requirements, for venous blood frequently hampers surgeons whilst operating, and keeps the most astute assistants busy in sponging it away. Hitherto no

satisfactory method appears to have been devised of combating this great defect until the introduction by Professor Esmarch, of Kiel, of the elastic bandage, the application of which renders surgery bloodless. Although I cannot speak too highly of this bloodless surgery in suitable and well-adapted cases, such as the following—the removal of bones partly or completely diseased in the operations for necrosis, in the removal of large nævi, where we want to preserve as much blood as is possible to the patient, already debilitated either by disease or accident—yet there are instances in which, as I stated some years ago to the Surgical Society of Ireland, the application of this bandage for the purpose of rendering surgery bloodless is both prejudicial to the patient and subsequently troublesome to the surgeon. I refer to cases of resection of joints, such as the knee, elbow, wrist, &c., where no vessel is severed which can possibly cause to the patient detrimental bleeding, and which can easily be controlled at the time by the surgeon, for invariably following upon the use of Esmarch's bandage in these operations, secondary or intermediate hæmorrhage will occur; the surgeon, not having at the time the opportunity of securing the severed vessels, will afterwards be called upon to arrest secondary hæmorrhage, in doing which he probably will not be able to avoid disturbing the apposition of the resected joint. While speaking upon the restriction of hæmorrhage I may conveniently allude to some out of the many ligatures now recommended in surgery—namely, catgut kangaroo tendon, jute fibre, horse-hair, silk, &c., &c. I will ask you to pause here with me and recall the time when the surgeon about to amputate was to be seen carrying the flaming cautery—the boiling pitch—the only means at that time known of arresting hæmorrhage, which, if not controlled, must prove fatal to the patient; however, by the illustrious discovery of Harvey, it was made clear that a ligature round the cut end of an artery would be sufficient to arrest the bleeding. The demonstration of this fact was given by Ambrose Paré.

As to the various modes of applying ligatures there still exist differences of opinion. Some merely approximate the coats of the vessel, whilst others (with whom I concur) hold that, to insure the safe securing of the vessel, the division of the internal and middle tunic is absolutely necessary. Some cut off one end of the ligature; others both. Some object to catgut upon the grounds that, where it should hold firmly, it softens and loosens. Some say that all ligatures when cut short become absorbed, while others

dogmatically assert that they are a continued source of irritation. In my own experience I have but very rarely had trouble after operations from any irritation produced by ligatures.

The advance of ophthalmic surgery has kept parallel with the other surgical branches. The assistance which the ophthalmoscope has afforded for diagnosing diseases of the eye, and the advantages we also owe to it by being able to illuminate its fundus, are self-evident facts. The operation of sclerotomy, though at present more or less upon its trial, may eventually supersede that known as iridectomy. Upon the uses of the laryngoscope I need hardly dwell further than by a passing mention; but working the instrument beneficially to the patient necessitates familiarity with it. As an assistant in diagnosing diseases of the larynx, as well as in helping in the extraction of foreign bodies from the same, in facilitating our decision upon the expediency of tracheotomy, it will be found most valuable. It will be further found of great utility not only in diagnosing diseases of the larynx, but in aneurism also and other affections more remote. The larynx has been extirpated for disease, first, I believe, by Billroth. Although I cannot speak with favour of an operation commonly performed (I allude to excision of the whole or of a part of the tongue in cases of cancerous disease), it must, however, be admitted that the sooner the disease is removed the better, since there is every reason for believing the affection to be at first purely local, and that a cure may ensue upon its extirpation. But even if permanent cure should not follow, the patient experiences temporary relief, for the return is likely to be in the glands, which will render death less distressing and painful. There are several methods recommended for the removal of this organ. I prefer the thermo-cautery scissors. I have never found it necessary or expedient to subject the patient primarily to the additional operation of delegating the lingual arteries, as was practised first by Demarquay. In cases where operation has been found impracticable, division of the gustatory nerve has been performed by Hilton and others. The necessity for rest (that which Mr. Hilton designates as physiological rest) I cannot pass over silently, as I am fully alive to the important part it occupies in the amelioration of surgical disease. As great as is the necessity for mechanical rest in the healing of a wound, and the repairing of a fracture, so complete is the impossibility to cure surgical affections without due regard to physiological rest.

Sir James Paget states in one of his works, entitled "Clinical

Essays and Lectures, that, after an operation, he calculates the hope of recovery by the "capacity to sleep," and, as with the general economy rest is the repairing process of nature, so with isolated organs, physiological rest is their greatest benefactor.

On more than one occasion I have seen this exemplified, and have procured physiological rest in cases of irritation and ulceration of the female bladder by dilatation of the urethra, and in that of the male by operating as for lithotomy, with the most happy results.

*Aneurysms.*—In treating internal aneurysms by injections, electrolysis, galvanism, &c., I am not cognisant of any satisfactory results. We must, consequently, in such cases content ourselves with rest, limited diet, iodide of potassium. But in this department of surgery we may look at the doings of our own countrymen with pride and satisfaction—witnessing, as we do daily, the saving of life and limb by compression in the treatment of external aneurysm—a simple and bloodless mode of cure substituted for the knife. May not these gentlemen, labouring so assiduously as they did against the pressure of popular prejudice, be regarded as public benefactors? They established to the world the then hardly conceivable fact that the imposition of a finger upon the main artery of a limb was capable of curing this formidable disease. The merit of this truthful discovery is mainly due to Todd and Duggan, Hutton, Cusack, Bellingham, and Carte, whom we may fitly allude to with Longfellow's beautiful lines:—

"Lives of great men all remind us  
We can make our lives sublime,  
And, departing, leave behind us  
Footprints on the sands of time."

These indelibly-marked footprints of the past are ably reprinted in the present by one who now is honourably associated with the name of aneurysm—I allude to Mr. Tufnell. Still marching in the same direction with the aforesaid illustrious pioneers, he almost outpaces them, by challenging internal aneurysm in its destructive course, arresting, as he often does, this disease in its progress, thereby rescuing from speedy dissolution the otherwise death-claimed patient. I must add that Esmarch's bandage has largely supplemented the good done by compression, and I have already had the honour of relating to the Surgical Society two cases of popliteal aneurysm cured by the aid of this bandage.

*Drainage.*—Everyone freely admits the necessity for drainage in wounds, as laid down so forcibly by that excellent surgeon, the late

Mr. Callender. Everyone agrees with, and all admit the doctrines inculcated by, him upon this subject, and also upon the obligation for drainage in recent surgical operations, for the purpose of giving free exit to serum, blood, or pus, as the case demands, thus preventing their absorption into the system. Some prefer catgut or india-rubber; others advocate glass tubes; whilst, again, it has been asserted that Nauber's decalcified bone drains are paramount. The means for drainage are not, however, a significant matter, so long as they be efficiently established.

It would be an omission were I not upon this occasion to allude to the now almost obsolete system of Listerism. For this purpose I must a little further tax your patience; and if, while referring briefly to the subject, I should repeat facts known to many of you, gathered by your own research, helped possibly by discussions upon this system within this Hall, you will, I trust, remember that others present may not have shared your advantages. By Listerism I understand the use of a spray, the use of protective, and gauze specially prepared. "Anything less than this," says a most competent enthusiast who has written on this subject, with Professor Lister's assent, "falls short of Listerism." We cannot assign drainage to Lister, for it was introduced by Callender. And I lay particular stress on this definition of the system, for it is thought by many that antiseptic surgery must mean Listerism, and that unless wounds are dressed according to the system called Listerism they are not treated antiseptically. Now, by antiseptic surgery I understand that which aims at securing healthy wounds, and the repair of same as quickly as possible, by the most exact cleanliness—surgical cleanliness, which is the prevention and destruction of all matters which would prove poisonous. Hence to those who practice surgery in this wholesome way, the term antiseptic becomes almost an opprobrium; for to say "I have treated *such a case* antiseptically," leaves it open to be inferred that on some occasions he does not practice cleanliness in a surgical sense, that he has not destroyed or removed all matter that is, or may become, poisonous. To ask a scientific, well-educated surgeon if he treated *such a case* antiseptically is almost offensive; and if a surgeon constantly repeats—"I treated *such a case* antiseptically," he seems to me, in other cases, to disparage his own surgery; and if he says—"I treated *such a case* according to Listerism," then we know that he still practices in darkness—still imagines that he can wash the air of germs by means of a spray, and keep them from a wound by

gauze and protective. But as there is sufficient proof that this Listerian system is fast dying—indeed we may call it dead—as is evidenced by the number of eminent men who have abandoned it, I will now only inquire how it came to so early a death. Firstly, it was weighed in the balance of careful and scientific research, and found wanting; it has since been found dangerous. Secondly, those who attempted to continue its advocacy—some from ignorance of the subject—damaged their cause. What confidence could be possibly placed in anyone who, when advocating this system in this very building, concluded some incoherent remarks in allusion to germs by saying—“You may call them bacteria if you like, but I call them little white maggots.” Imagine ultra-microscopic objects compared to white maggots; fancy any reasonable person imagining he could see with the naked eye the bacteria termed, .0015 mm. How ludicrous, were it not lamentable, is such a statement!

Again, contagium vivum, and the germ theory, have been, in this Hall, spoken of as synonymous; the writer of the communication extravagantly proclaiming Listerism, suddenly assumed a position resembling that of Ajax defying the lightning, then in wild ecstasies declared that no longer might we fear that “grim spectre, the peritoneum.” With what surprise he must have read Professor Lister’s speech at the International Congress, who argued with what rapidity wounds of the peritoneum heal, and the remarkable absorbing power of that membrane, and therefore its ability to take care of its own exudations; he doubted very much if, in the hands of a skilful, careful operator, it was not better to dispense with the antiseptic plan—meaning his own, Listerism. It must not be concluded that I have at all censured those who upon this subject exhibited impulsive enthusiasm; for the theory, taken in all its bearings, is complete, all-embracing and seductive, simple to the understanding, satisfactory to the reason, comforting to the patience, and the application of it beautiful to behold. To be simple, satisfying, and beautiful indicates æsthetic qualities, which of yore determined the choice of Paris, yet the apple was not given to the Goddess of Wisdom. The object of choice, like Saul’s armour upon David, has not only not been proved, but Lister’s theory, this armour-plated surgery—viz., washing the air of germs by a spray, and keeping wounds free from bacteria by this and gauze, is now thoroughly disproved. But enough—there is ample and well-established proof that, without sentimental elaboration, and without danger to the patient, surgical cleanliness, adequate drainage,



and physiological rest, will produce every result the most exacting surgeon could desire.

*Reparative surgery*, or *plastic surgery*, is as important an advance as any I have related. When Hunter, a hundred years ago, transplanted the spur of a young chicken from its leg to its comb, and found it lived, he never thought the result he then produced would establish the foundation for a practice that brought some of the most intractable cases within the limits of reparative surgery; and yet, in 1869, Riverdin transplanted skin from one part of the body to a granulating surface, and in his communication made to the Surgical Society of Paris, inquires whether the growth of skin "is due to the effect of contact of neighbourhood, or due to the proliferation of the transplanted elements." In this connexion the valuable experiments of Professor Hamilton, of Aberdeen, in which a minute portion of sponge was substituted for skin as a graft, cannot but be most interesting, and may possibly become of great practical value to the surgeon. An interesting paper on this subject has appeared in the *Journal of Anatomy and Physiology*, by the distinguished Curator of our Museum. If the portion of skin is well selected and properly adapted, it matters little whether the operation be one of approximation, sliding, or transfer from a distance. How often have we seen ulcers healed by skin-grafting, for which, some years ago, excision or amputation would have been adopted? In passing, I must not omit the plastic operations for ectopia vesicæ, by turning skin flaps over the deformed bladder; nor the transplantation of bone; nor the restoration of the lips, for deformity caused by disease or injury, or from congenital defect—truly, the operation for hare-lip can now be accomplished with such surgical artistic skill that Nature herself is rivalled by the beauty of the repair. A further expansion of plastic surgery in the reparation of eye lesions, in the form of corneal and conjunctival transplantation from the rabbit to the human subject, is now on its trial; and this procedure, so warmly advocated by Mr. Wolff, of Glasgow, and by other ophthalmologists, is now under investigation, and may yet come to be one of the most valuable contributions to plastic surgery.

Under this head I may allude to lost nose, for although the operation for lost nose dates even further than Taliacozzi—who was thought so highly of that the faculty of Bologna raised a statue to him, which represented him holding a nose in his hand—some of the other operations, besides the Taliacotian (which has

been so amusingly depicted in Butler's "Hudibras"), deserve to be made mention of—namely, the Indian, Mr. Symes's, and, lastly, the transplantation of a finger from the hand of the person who requires the nasal organ. This latter may be called the American operation. The commonest causes for the loss of this feature are said to be syphilis and lupus.

I would have desired to allude to deformities and diseases of, and progress in the surgery of, the rectum; to the judicious use of mercury in syphilis, and to the various proposed radical cures for hernia, and especially the dissecting operations mentioned in the "System of Surgery," by Gross, so ably reviewed by that accomplished and erudite surgeon, the late Mr. Richardson.

There is indeed much, very much, more upon this all-important subject of modern surgery, to which I would fain call your attention, were it not for the apprehension that I must have already more than reached the limits of your endurance. Were any apology necessary for having detained you so long, such I feel confident you will unanimously acknowledge is to be found in the humane nobility, the immense field for scientific research, and the (to us) absorbing interest of the topics upon which I have cursorily touched. I use the latter expression, because, from consideration for you in reluctantly refraining from further addition to, and amplification of my subject, I realise fully that all I *have* said compared with all I *would* say (did time permit), is as dabbling upon the shore compared with launching into the depths of the ocean.

I do not doubt your hearty coöperation—the coöperation, I mean, of those from whom it would be valuable—in my heartfelt hope that the Session of the Surgical Section of the Academy which we now inaugurate will not only fulfil our highest aspirations, but also that it will prove itself worthy of the time-honoured traditions handed down to us by the Surgical Society of Ireland.

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#### NEW TEST FOR PUS IN THE URINE.

A FEW drops of hydrogen peroxide brought into contact with pus will produce an effervescence similar to that caused by hydrochloric acid on a carbonate. The action continues until all the pus is destroyed, so that it cannot be recognised microscopically. It affords the simplest and most delicate test for pus in the urine, the smallest quantity being easily detected.—*N. Y. Medical Record*, Jan. 19, and *Medical Times*.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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#### RECENT WORKS ON PHYSIOLOGY.

1. *Elements of Human Physiology.* By HENRY POWER, M.B., &c. London: Cassell & Co. 1884. Small 8vo. Pp. 389.
2. *Aids to Physiology, specially designed for Students preparing for Examination.* By B. THOMPSON LOWNE, F.R.C.S., &c. Fourth Thousand. London: Baillière, Tindall, & Cox. 1883. Small 8vo. Pp. 265.
3. *Elementary Physiology, adapted to the Syllabus of the Education Department.* By G. T. BETTANY, M.A., &c. London: Bemrose & Sons. 1884. Small 8vo. Pp. 160.
4. *A Manual of Physiology for the Use of Junior Students of Medicine.* By GERALD F. YEO, M.D., Dubl., F.R.C.S.; Professor of Physiology in King's College, London, &c. London: Churchill. 1884. Pp. 632.

1. MR. POWER's work forms a valuable addition to the admirable series of students' manuals, which we owe to the enterprise of Messrs. Cassell & Co. The author, confined as he is within narrow limits as to space, wisely restricts himself to physiology proper, dealing neither with histology nor with pure chemistry further than is absolutely essential. After a short introductory chapter in which the more important constituents of the body—albumina, carbo-hydrates, and fats—are briefly described, the subjects are taken up in the following order:—Blood and circulation, food and digestion, absorption, glycogeny, the skin, animal heat, the urine, general and special muscle and nerve physiology, the organs of special sense, and generation and development. There is an appendix in which are given the chemical characters of the more important substances mentioned in the text, and the volume concludes with a full and good index. To say the work is written by Mr. Power is equivalent to saying that it is written clearly, and

in agreeable style. Wherever it is necessary the text is illustrated by good wood engravings. Taken as a whole, and making allowance for its necessarily small bulk, this manual is, in our opinion, one of the best of the many short books on physiology which have recently appeared.

2. Mr. [unclear] book belongs to a class for which we entertain a very sincere aversion. Written ostensibly for students who have already learned the subject from lectures or good text-books, and who require only to have their memory refreshed before examination, these "students' aids" are used, as every teacher knows, by those who have not had diligence or intelligence enough to make up their work in the legitimate way. They are simply cram-books, intended not to really teach, but to furnish the idle student with cut and dried answers by which he may deceive his examiner, and so pass muster in his day of trial. As is usual in such books, there are numerous inaccuracies. Thus we have a figure of the outer molecular layer of the retina introduced as a portion of the grey matter of the spinal cord, and the structure of the walls of a salivary duct is described as resembling that of a vein. The book is in two parts, and deals not only with physiology, but with histology, and in places with coarser anatomy.

3. The little manual of Mr. Bettany is intended not for medical students, but for the pupils in primary schools. It must consequently be judged from a different standpoint to that from which we look at the other works on our list. It is more than a manual of physiology, for it deals largely with anatomy also. It is written in perfectly untechnical language, abounds with homely but forcible and attractive illustrations, and is, on the whole, remarkably accurate. At the end of each chapter are a number of questions, and suggestions to the teacher as to how the subject under consideration may best be practically illustrated, although, as the author says, the true teacher will devise his own methods of making his teaching real. The advice to test the pupil's knowledge of the meaning of even the simplest words is one which will meet the approval of every true teacher. Although this is a little book which sells for a shilling, it is one which must have cost its author much labour. We think Mr. Bettany is to be congratulated on having accomplished a difficult task with great success. If every medical student had been put through this manual by a "true

teacher" before he began his professional studies, the labours of the Professor of Physiology would be much lighter and crowned with much more success than they are at present.

4. By his excellent manual Professor Yeo has supplied a want which must have been felt by every teacher of physiology. In the noble text-book of Professor Foster, English readers have a work which is unsurpassed; but its great size and comprehensiveness, and the somewhat minute discussion of many doubtful points, make it a formidable object to the eyes of first and second years' students. Of Students' Aids, Notes, Tablets, and so forth, our literature has unfortunately no lack, and much of the superficiality and ignorance of physiology displayed by students are due to their baneful influence.

Dr. Yeo has written a book which is intended, as stated in its title, for junior students, but which, although written in simple and, as far as possible, untechnical language, is accurate and complete, and which will serve well as an introduction to more ambitious works. Moreover, being intended chiefly for medical students, and written by one who is not only an able physiologist, but an accomplished physician, the needs of the practitioner of medicine and surgery are never lost sight of, and special attention is given to those parts of the subject which have most bearing on practice.

It has been thought well to treat not only of physiology, but also of physiological anatomy or histology, and there is also a very good section on the development of the embryo. The vegetative functions are first dealt with, and the general muscle and nerve physiology comes in after that of digestion, circulation, respiration, and secretion. Although, as the author says, there are objections to every order in which the various functions can be taken, since they are all so closely related that to fully understand any one it is necessary to know all, yet still we think it a more natural arrangement to take the general physiology of muscle and nerve first, and then the functions of vegetative life.

The text is profusely illustrated with excellent wood engravings. Many of these are reproduced from Cadiat's work on "General Anatomy," and, so far as we know, this is their first appearance in an English book. There are besides drawings of apparatus, diagrams, and curves, many of which are original. We would particularly notice the curves given in the chapter on the con-

tractile tissues, to illustrate the effects of temperature, loading, strength of stimulus, &c., on the form of the muscular contraction.

To say that Messrs. Churchill are the publishers is the same as to say that the bringing out of the volume leaves nothing to be desired.

In conclusion, we heartily congratulate Professor Yeo on his work, which we can recommend to all those who wish to find within a moderate compass a reliable and pleasantly written exposition of all the essential facts of physiology as the science at present stands.

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*Elements of Histology.* By E. KLEIN, M.D., F.R.S.; Joint Lecturer on General Anatomy and Physiology in the Medical School of Saint Bartholomew's Hospital, London. Second Edition. London: Cassell and Company. 1883. 8vo. Pp. 352.

THE perusal of this small manual of Histology, by a master of such acknowledged superiority as the author is well known to be, cannot fail to be a source of pleasure and of information to the student. It will, we have no doubt, be equally welcome to the overworked student, to the busy practitioner, and to the inquiring amateur. The representative of the first of these classes will find the knowledge which he requires in a concentrated and convenient form, conveyed in a pleasant as well as reliable manner. The second, who does not care to tax his memory and attention with minutiae, of which the applicability does not appear sufficiently obvious, will find in this little volume a trustworthy *vade-mecum*. The third group of readers referred to can have no reason to complain of the clearness and attractiveness of the style in which all the prominent facts of histology are treated, and which shows a decided improvement upon that of the "Atlas" by the same author.

The researches of Dr. Norris, of Birmingham, on the third corpuscular element of the blood, are dismissed in a single sentence embodying an opinion given on the authority of Alice Hart. This question still, we think, remains open. The observations of Mr. Haycraft, of the same city, have found more favour in the eyes of our author, and have certainly received their full share of attention in the matter of the striation of voluntary muscle. We thought we should have found Mr. Schäfer's views taken more notice of.

The histology of the nervous system is very clearly and concisely

treated. We had expected more definite opinions on the nature of Ranvier's nodes and of Lautermann's notches.

We will not, however, attempt to dwell at length on any inevitable small shortcomings, which cannot fail to occur in a concise manual of a rapidly growing science; we would rather cordially recommend it to our readers as a convenient and reliable introduction to the subject of which it treats.

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*Elements of Practical Medicine.* By ALFRED H. CARTER, M.D.,  
Lond.; Physician to the Queen's Hospital, Birmingham, &c.  
Second Edition. London: H. K. Lewis. 1883. Pp. 427.

THIS book was well received on its first appearance some three years ago. It has now been improved in this, its second edition, by the addition of some new sections and an index, as well as by a general revision. Criticism of a work described as "a *simple introduction* to the study of medicine" is somewhat difficult, inasmuch as certain omissions in it that might possibly be commented upon may have been purposely made by the author as unnecessary for the class of readers for whom his object is to provide—viz., "those who are not disposed, or who have not the leisure, to read the large and complete (standard) works" on the subject.

The condensation requisite in a book of this kind seems to have been well and judiciously done; and the sections on treatment, although necessarily curtailed, are otherwise satisfactory, especially as they are supplemented by a useful therapeutic index. Many candidates for "the ordinary medical qualifications," which, however, the author, with justifiable prudence, does not particularise, will probably be glad to know of Dr. Carter's "Elements," and to avail themselves of its assistance; and busy practitioners will often be able to advantageously refresh their memory from his pages.

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*Clinical Chemistry.* By C. H. RALFE, M.D. Cassell & Co. 1883.  
Pp. 308.

WE yield to no one in appreciation of the value of a knowledge of chemistry to the medical practitioner, and hold that he who is ignorant of it loses much both of theoretical and practical interest. But we maintain that there is no such thing as the possibility of gaining a satisfactory acquaintance with so-called "clinical" or

"medical" chemistry except through a sound fundamental knowledge of general chemistry, inorganic and organic, as taught by a competent teacher in a well-appointed laboratory. Armed with this knowledge the student will find little difficulty in applying it to the elucidation of pathological conditions—*e.g.*, of the urine; without it he will but grope in the dark, even though aided by special manuals. The object of this work, which is one of Cassell's Students' Manuals, is to give a concise account of the best methods of examining, chemically, abnormal blood, urine, morbid products, &c., at the bedside or in the hospital laboratory. The book opens with a sketch of the nature and reactions of the constituents of the animal body, such as is to be found in some text-books of physiology. Then follow chapters on the blood, chyle, lymph, and milk; on morbid conditions of urine; morbid conditions of the digestive secretions; and morbid products, calculi, &c. In the main the author fairly fulfils his task, by no means an easy one, and gives in a succinct form a considerable amount of information. Dr. Ralfe has devoted special attention to the morbid conditions of the urine, and he fully discusses the questions relating to the reaction of this fluid, the varieties of proteids which occur in it, and the chemical tests, qualitative and quantitative, for sugar, albumen, &c. After all there is not, as yet, very much of practical value to be gleaned in respect of diagnosis or treatment by the chemical examination of any other secretion or excretion except urine, and, for obvious reasons, it is impossible, in the great majority of cases, to go beyond qualitative testing.

It might be well, in a future edition, to print the directions for quantitative estimation in small type.

We do not care to be too exacting, else it would not be difficult to give a rather formidable list of inaccuracies, and even positive errors, and, in an educational text-book, it is disappointing to meet with so many misspellings of familiar names (*e.g.*, Woollaston, Pettenkoffer, &c.) and substances, and with incorrect chemical symbols. The drawings, too, are, as a rule, indifferent, and in the preparation of the next edition we respectfully suggest to the author to thoroughly revise his text from such sources as Hoppe-Seyler's *Physiologische Chemie*, and *Chemische Analyse*; the *Zeitschrift für physiologische Chemie*; and Salkowski and Leube's excellent work, *Die Lehre vom Harn*.



**RECENT AMERICAN WORKS ON ANATOMY.**

1. *A System of Human Anatomy, including its Medical and Surgical Relations.* By HARRISON ALLEN, M.D.; Professor of Physiology in the University of Pennsylvania, &c. Illustrated by Plates, many of which are Coloured, and Woodcuts. The Drawings by HERMANN FABER, from Dissections by the Author. Section V.—Nervous System. Philadelphia: Henry C. Lea's Son and Co. London: Henry Kimpton. 1883.
2. *The Compend of Anatomy.* By JOHN B. ROBERTS, A.M., M.D.; Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy; Recorder of the Philadelphia School of Anatomy, &c. Third Edition. London: Henry Kimpton. 1884.

1. In the large work on anatomy, of which Part V. lies before us, an attempt is made to combine in one volume a text-book suitable for students preparing for examinations, with the consideration of anatomical facts regarded from the practitioner's standpoint in their direct application to medicine and surgery; and, judging from the present section on the Nervous System, the author may be considered fairly successful in his undertaking, though the advisability of including in a single large volume Systematic and Applied Anatomy, Pathology and Physiology (as appears to be the intention here), is questionable, as from its bulk it tends to become unwieldy and unsuited for use, save as a book of reference. In the section under consideration another defect is noticeable—the text is not sufficiently assisted by illustrations—for example, there is not a single drawing of the nerve supply of the perinæum, nor is the pudic nerve shown in any plate. This is a serious drawback to the usefulness of the work to one class of men for whom it was specially designed—those in practice, the majority of whom have probably seldom or never the chance of renewing their acquaintance with practical anatomy once they leave the dissecting-room of their school. The illustrations, however, which are given, consisting of lithographed plates and woodcuts, are well done, being carefully drawn from good dissections made by the author, and clearly printed.

Among the more novel features of this part are a number of woodcuts of sections made both horizontally and vertically through different planes of the cerebrum; these are sure to prove most helpful to students who are anxious to get a correct idea of

the manner in which the various nuclei and fasciculi are related to each other. Most of the lithographed plates present a strong family likeness to some old friends, being drawn very closely "after the manner of Gray" and Quain.

In reading over the text, which is lucidly expressed and commendably free from errors, two points struck us. First, the great care with which the author has collated his material, having in every instance indicated in a footnote the exact reference for verifying each statement; secondly, how little the American medical schools have as yet done to advance the study of anatomy by means of original investigations, the vast majority of the authorities quoted being either German or English. However, this is a reproach which the publication of a few works such as the present will go far to remove.

In conclusion, we can cordially commend this work to the student in American schools, where the want of such a book has long been felt; but in this country it is not likely to displace our own standard text-books of anatomy in public favour.

2. A greater contrast can hardly be imagined than the present work and that which we have just reviewed; while in that 126 quarto pages were devoted to the consideration of the nervous system alone, in this an entire system of anatomy is contained in 198 small octavo pages, of which ten are taken up with dedication, preface, &c. As might be inferred from this, the contents are so much condensed as to make the book practically useless either as a manual for the dissecting-room or as a handbook for home-study.

The fact that the third edition now lies before us testifies not to the value of the Compend, but to the mistaken idea students have that "the smaller a book on anatomy is, the easier it is to make up your work from."

*The General Practitioner's Guide to Diseases of the Eyes and Eyelids.*

By L. H. TOSSWILL, B.A., M.B.; Surgeon to the West of England Eye Infirmary at Exeter. London: J. & A. Churchill. 1884. Pp. 147.

It was with much pleasure that we read this little book. It contains almost all that we could expect the general practitioner to know.

The diagnosis is clearly put, and as regards treatment the reader

is not puzzled by an immense pharmacopœia from which he knows not what to chose, but is given a few simple and efficacious drugs, and is told when and where to use them.

The book is professedly written for general practitioners; but, on account of its simplicity and lucidity, it is one which every student might read with advantage. It is, of course, not free from faults, but the faults are more negative than positive—still we are surprised to find at page 39 that he recommends, in quite an unconcerned manner, as if it were in no way dangerous, the treatment of pannus by inoculation from purulent ophthalmia, and speaks of it as “occasionally a most valuable aid in ordinary treatment.” In this connexion it seems strange that no mention whatever is made of jequirity. The chapters on phlyctenular diseases are somewhat confusing in consequence of indefinite nomenclature.

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*Experimental Chemistry for Junior Students.* By J. EMERSON REYNOLDS, M.D., F.R.S. Part III., Metals and Allied Bodies. London: Longmans, Green, & Co. 1884.

DR. REYNOLDS has proved himself to be an accomplished teacher as well as an original worker, and the series of small manuals on *Experimental Chemistry* which he has published has met with a well-merited success. We notice with pleasure that almost simultaneously with the issue of the volume under review a German edition of it has been brought out, and we congratulate the author on this gratifying mark of recognition. His aim is to place the student to some extent in the position of an independent investigator of chemical phenomena, and we have no doubt that anyone who will intelligently work through the simple and very practical experiments so tersely described in this book will attain a sound and very considerable knowledge of the science and art of chemistry.

The order in which the metallic elements are taken nearly coincides with that of their atomicities and electro-chemical relations—those of higher atomicity or electro-negative characters being first examined wherever this course does not interfere with the natural grouping of the metals.

Reference is made to the preparation of all the metallic compounds in the *British Pharmacopœia*, and much interesting and valuable incidental information is scattered through the book. For example, we may mention the lucid exposition of the principles

upon which the art of photography depends (Experiments 446, 447), and we will quote the explanation of the recent method known as *carbon printing*, which is given in the chapter on Chromium Compounds:—

“The bichromate of potash is easily reduced by light in presence of organic matter; if the latter be gelatin, a body insoluble in warm water is formed. The process of photographic *carbon printing* depends on this fact. A gelatin layer coloured with indian ink (carbon finely divided), and sensitised with bichromate, is formed on paper or other suitable material. When dry it is exposed to light under a *negative*, and when sufficiently acted upon the film is treated with warm water, which dissolves away the unacted upon gelatin layer, and leaves clean the white paper, which then forms the lights of the picture, the shadows being formed by the insoluble gelatin and pigment.”

A series of excellent synoptic Analytical Tables concludes the volume, which we can thoroughly recommend, and the only deficiency we desire to call attention to is the want of an index, there being no clue to the text except a limited table of contents.

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#### RECENT WORKS ON MATERIA MEDICA AND THERAPEUTICS.

1. *A Handbook of Therapeutics.* By SIDNEY RINGER, M.D.; Professor of the Principles and Practice of Medicine in University College; Physician to University College Hospital. Tenth Edition. London: H. K. Lewis. 1883. Pp. 688.
2. *A Practical Treatise on Materia Medica and Therapeutics.* By ROBERTS BARTHOLOW, M.D.; Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, &c. Fifth Edition. New York: D. Appleton & Co. 1884. Pp. 738.

THAT both of these well-known works enjoy a deservedly high reputation is shown by the remarkable manner in which rapidly succeeding new editions of each of them have been run through.

The title of Dr. Bartholow's book indicates that it embraces a larger field than Dr. Ringer's. But still the American work is more a treatise on Therapeutics than upon Materia Medica, inasmuch as pharmacopœial descriptions and botanical and chemical details are purposely omitted from the text; and the full account given of the “therapy” of the different drugs is based upon and preceded by a description of their physiological effects as deter-

mined by the most recent and reliable researches. Dr. Bartholow's Treatise may therefore be fairly—and not unfavourably—contrasted with Dr. Ringer's Handbook, both as to the subjects treated of and the way in which they are discussed.

While Ringer gives a fuller account of the physiological action of some drugs than Bartholow does (and *vice versa*—e.g., aconite and ergot), the latter is, on the whole, a more complete work than the English one, and will, we think, be found more generally useful by the practitioner. Thus, such important subjects as that of alimentation in health and in disease, the use and preparation of digestion ferments, and the employment of the various forms of electricity as therapeutic agents, which are ignored by Ringer, are ably treated of by Bartholow.

Although Ringer mentions, more or less fully, several non-official drugs, Bartholow's work contains an account of a much larger number of the different new remedies now in vogue, even of so comparatively a recently introduced one as kairin. Notwithstanding that it is in the United States Pharmacopœia, dilute hydrobromic acid finds no place in the index of either volume, but Bartholow (p. 548) gives a brief notice of it, and refers to its undoubted value in cases of spasmodic cough, and in diminishing, if not preventing, cinchonism. It is not mentioned at all by Ringer, neither is boracic or chrysophanic acid.

Both books give a "Clinical Index" or "Index to Diseases." Bartholow's Index is fuller than Ringer's, and also contains a very complete list of antidotes, which, however, would be better if arranged alphabetically.

Dr. Bartholow states that Dr. Post, of New York, has ascertained that atropine is a physiological antagonist to the systemic symptoms induced by carbolic acid. He was induced to administer atropine in a case of poisoning by carbolic acid on observing the minutely contracted pupils and the failing circulation. The result was successful. Similar success has attended the same practice in other cases; and experiments on animals, it is stated, have also demonstrated the existence of this antagonism, which may, therefore, now be probably regarded as an established fact.

Scattered through Dr. Bartholow's pages are a number of prescriptions and suggestions for the administration and employment of remedies, which will doubtless prove useful to numerous readers, and which also perhaps savour less of empiricism than many of Dr. Ringer's "wrinkles."

## PART III.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ACADEMY OF MEDICINE IN IRELAND.

President—J. T. BANKS, M.D.

General Secretary—W. THOMSON, M.D.

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#### SURGICAL SECTION.

President—WILLIAM IRELAND WHEELER, M.D., President, R.C.S.I.

Sectional Secretary—WILLIAM STOKES, F.R.C.S.I.

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*Friday, February 8, 1884.*

MR. COLLES in the Chair.

#### *Foreign Bodies in the Knee-joint.*

SIR GEORGE PORTER read a paper on this subject. [It appeared in the number of this Journal for March, page 193.]

The CHAIRMAN mentioned that the late Mr. Alcock, in his work on "Surgical Experience in the Peninsular Campaign," recorded several cases of balls penetrating the knee-joint having been successfully treated.

MR. THOMSON welcomed Sir George Porter to the ranks of the advocates of Listerism. Concerning Mr. Alcock's experience it was not pretended that wounds of the knee-joint did not get well before Listerism was established. Perhaps they got well in spite of the surgery of the day; but it was contended that under other conditions the uniform success was not half what was obtained under Listerism.

MR. STOKES emphasised the surgical importance of the cases Sir George Porter had brought under notice. The second case was of special importance as confirming the statement of Sir Wm. MacCormac, in a lecture in New York, concerning the principle long neglected by military surgeons of not interfering immediately with gunshot injury involving any large articulations. His vast experience in two campaigns enabled him to lay it down as far the best surgery not to probe the wound too freely, and make diligent search for foreign bodies imme-

diately on the reception of injury, but to wait until matters got into a quiescent state, and then if the foreign body became troublesome cut down upon it. The two cases also showed what great things could be done by following the Listerian method.

MR. ORMSBY, having been present at one of the operations, bore testimony to the difficulty experienced in fixing the loose cartilage in the case of the soldier. He suggested a discussion on the relative merits of the direct and indirect incisions for the removal of foreign bodies or loose cartilages in the knee-joint. The indirect or subcutaneous incision was formerly preferred as the safer and least likely to be followed by diffuse suppuration of the knee-joint. In the last case in which he saw direct incision performed without antiseptic precautions, diffuse suppuration of the joint ensued, ultimately necessitating amputation of the thigh. Under the Listerian method direct incision could be performed with small risk, as Sir George Porter's two satisfactory cases proved.

MR. BENNETT, while appreciating antiseptic surgery, cautioned practitioners against being too ready in relying on its efficacy to open the knee-joint or any other large joint. He protested against the universal acceptance of Listerian treatment—for instance, in this case, where the presence of the foreign body was the result of rheumatic arthritis.

MR. MILES thought Listerian enthusiasts took too much credit for the success of that treatment.

SIR GEORGE PORTER, in reply, agreed with Mr. Bennett that a rheumatic case should not be interfered with.

#### *Pistol Wound of the Cerebellum.*

MR. THOMSON read a paper on pistol wound of the cerebellum. The subject was a detective officer shot in an affray. There were two wounds, one in the occipital bone, about an inch to the right of and an inch below the occipital protuberance, the second in the left arm. The apex of a bullet was found on the right margin of the bone wound in the skull. The right lobe of the cerebellum corresponding to the wound was crushed by fragments of bone and lead to the depth of half an inch. There was a clot between the right parietal and the dura mater, and on the inner surface of the same bone the mark of impact of lead. The base of the bullet could not be found for some time, and it was then discovered embedded in its own depth only in the brain substance of the left hemisphere at the anterior and inferior portion. The fragment had evidently passed between the dura mater and the vault of the skull from right to left. A similar case is noted by Larrey. The person charged fired only one shot, so that the second was from some other pistol. Mr. Thomson discussed the questions—(1.) Could a person standing in the position of the assailant have inflicted the wound on the back of deceased's

head? (2.) Could a person with such a wound of the cerebellum have advanced upon his assailant, as it was proved deceased did after the first shot was fired? (3.) Is a wound of the cerebellum immediately fatal? He believed that the wound could have been inflicted; that it was possible that a person so struck could advance, though in a "drunken" manner; and that such wounds were not necessarily fatal.

MR. BENNETT called attention to two points—first, that of a bullet being cleft upon the bone and so misleading in the investigation; and secondly, the fact that the cerebellum could be wounded superficially, and it might be deeply, without phenomena. He mentioned the case of a sailor who, whilst on deck, was struck by a falling iron 20 or 80 lbs. weight, which grazed the top of his head, and the wound,  $1\frac{1}{2}$  in. long, overlay the cerebellum. When admitted to Sir P. Dun's Hospital the man presented no cerebral symptoms. There was considerable depression of the inner table and some loss of bone, it being gouged out and the brain substance escaped. The wound was treated on the simplest principle, and in three weeks it closed sufficiently to enable the man to leave hospital.

DR. HENRY KENNEDY said it was not the wound of the brain but the hæmorrhage that did the mischief.

MR. LENTAIGNE corroborated Mr. Thomson's account of the *post-mortem* examination, at which he was present, but differed with him as to the bullet having travelled between the dura mater and the bone, there being no lead streak along the supposed track. The case established that the man might have received the head wound first, but from the position of the parties he thought it more probable the other was first.

DR. M'ARDLE mentioned two cases, showing that the cerebellum cannot be extensively injured without coördination being impaired.

MR. ORMSBY saw no difficulty in believing that the bullet took the course indicated by Mr. Thomson. A quay labourer who fell into the hold of a ship walked home, and next morning went to an hospital complaining of a severe pain in his head. Not satisfied with the attention he received, he became excited and abused the hospital officials, who thought he was drunk. Thence he went to the Meath Hospital and was admitted. On being put to bed he became unconscious, and all the symptoms of brain compression were apparent. He never rallied, and died seventy-two hours after the fall. A *post-mortem* examination revealed an extensive fracture of the base of the skull with laceration of the cerebrum and cerebellum.

DR. FRAZER held that knowledge of medical cases would do little to settle the question of the locomotion existing following a wound of the cerebellum.

MR. CORLEY arrived at the conclusion that no condition of the brain from injury or disease would indicate what capacity the patient had,



mental or physical, before death. A man through whose head a bullet passed felt as if he got a cut of a whip.

DR. HEUSTON mentioned that in dissecting a subject he found the whole fore lateral lobe of the cerebellum degenerated, being almost entirely composed of a cyst, and on inquiry he ascertained that the only symptom exhibited was moroseness of temper.

MR. THOMSON said the cases mentioned by Messrs. Bennett, Ormsby, and Corley, proved that severe injury to the cerebellum might be present without producing the want of coördination that might be expected. As to the course of the bullet he could not accept Mr. Lentaigne's objection. At one point on the inner side of the vault of the skull there was a bullet stain between the dura mater and the skull. He had avoided any expression of opinion from prudential reasons beyond discussing the abstract questions raised on medico-legal grounds. If the charge of murder was to be sustained the accused must have fired the first shot. The deceased had a second wound on the arm which was not mortal.

The Section adjourned.

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#### PATHOLOGICAL SECTION.

President—A. H. CORLEY, M.D.

Sectional Secretary—E. H. BENNETT, M.D.

*Friday, February 29, 1884.*

The PRESIDENT in the Chair.

#### *Stricture of Rectum.*

MR. M'ARDLE exhibited a specimen of stricture of the rectum taken from a patient who died of peritonitis. The stricture was situated at the junction of the middle and lower third of the bowel, and extended downwards to within two inches of the verge of the anus. The intestine below the seat of disease was smooth and dilated. The stricture with difficulty admitted a No. 9 gum-elastic catheter. The upper opening of the strictured part was surrounded by a large ulcer which perforated the anterior wall of bowel, which at this point was attached by bands of adhesion to the recto-vesical fold of the peritoneum. He believed that traction by this fold on the margin of the very sensitive ulcer produced the severe pain which in this case occurred before micturition. The stricture was of the malignant variety.

*Intestinal Concretions.*

DR. CHARLES B. BALL showed a number of calculi from the intestine of the horse. Two of these were fine examples of the oat-hair concretion. One was rough and tuberculated on the surface, and on section was found to be composed of concentric layers of vegetable hairs, with a considerable quantity of phosphatic matter and portions of the husk of the oat. The second was smooth and uniform, both on the surface and in section, and was composed almost entirely of oat-hairs closely felted together. Microscopic slides of both these calculi, with the hair of the oat-seed for comparison, were exhibited. The author also brought forward a collection of fourteen concretions composed chiefly of ammonio-magnesian phosphate, the nuclei of which were very various, including iron nails, small stones, vegetable matter, a piece of leather, &c. Some were much faceted, and illustrated distinctly the two ways in which this appearance is produced. In the one which was of the prismatic shape, section showed that the concentric layers were continuous all round; but it was evident that the layers were much thicker in the direction of least resistance—namely, at the angles of the section, while they were thinned off at the portions corresponding with the facets. In others it was evident that the faceting was due to the rubbing of one stone against others, as the layers were cut through at the facets. One of the concretions was of peculiar shape, being concavo-convex, and sections showed that this was evidently a portion of a calculus which had undergone spontaneous fracture within the animal. Additional evidence of this was to be found in the extreme brittleness of its structure. Microscopic sections of these calculi were exhibited, which showed well the tubular structures found abundantly in intestinal as well as in urinary concretions, and supposed to be *confervæ*. Dr. Ball showed several beautiful examples of *ægagropiles* and bezoars from the museums of Trinity College and the Royal College of Surgeons.

On the motion of DR. BENNETT, seconded by MR. STOKES, leave was given to Mr. Valentine Ball, who was not a member, to address the Section.

MR. BALL said he had, at his brother's request, brought the specimen, the first impression having been that it might be a fossil calculus belonging to some extinct animal. But he had obtained information which showed that within the last year a number of rounded masses of tribasic phosphate had been introduced into the country for the manufacture of manure. Six months ago he received two specimens, and he had the sections made which were now exhibited. He noted the absence of concentric rings, but it occurred to him that they might have been obliterated by crystallisation. Having exhibited the specimens to the Geological Society, he learned that masses of the kind were abundant

in Podolia and Bessarabia, but unaccompanied by any fossil mammalian bones. They resembled specimens of calculi in the museum of the College of Surgeons; and he had heard that twelve or thirteen years ago similar specimens were described in the "Transactions of the Geological Society of Vienna," as coming from silurian rocks, thus excluding the hypothesis of any connexion with mammalia. They might have been derived from original spherical masses of carbonate of lime, and some of the analyses made showed that they contained carbonate of lime. They might represent sponges or spherical masses of coral in which the carbonate of lime had been replaced by tribasic phosphates; or they might be altered spherical conglomerations of iron pyrites. When obtained from the mother rock the specimens were rough, but when they had been rolled in rivers they presented a polished surface.

DR. C. F. MOORE said he had some years ago got possession of the remains of a crocodile 11 feet long, and on examination he found pendant from the exterior of the intestines, and encapsuled, stones and other refuse which the reptile had evidently swallowed, and which, instead of having been passed out in the ordinary way, had been extruded through the lining membrane of the bowel lying between it and the peritoneum, apparently without having caused any irritation.

DR. FRAZER mentioned that several years ago he attended an old woman, a cook, for a tumour in the cæcum the size of his two hands. From time to time she passed what she thought were the joints of a tapeworm, but on examination they were found to be portions of the ligamentum nuchæ of a calf which had collected, forming the tumour, and which was got rid of by doses of castor-oil. Some years afterwards he attended another female for a tumour in the same region, and purgatives produced a ball about the size of a walnut. She had been in the habit of eating her own hair, and the ball was proved to consist of rolled-up hair. Afterwards he attended a young man employed in a shop, who had been in the habit, every time he tied a parcel, of eating a bit of twine. He got the tumour away, and it proved to consist of pieces of twine. Concretions found in cattle were not common in this country. These concretions were the result of the animal licking its own skin. Calves did so more than cows, and unless they vomited the concretion so formed they grew emaciated, and died. In the old Natural History Society, Archbishop Whateley read a paper on the licking of bones by cows, in which he stated that perfectly healthy cows did not lick bones. In the old days, when Scotchmen ate a great deal of stirabout, the formation of intestinal concretions made of the oatmeal husk was much more common than now. He had seen numerous specimens of these concretions in the old Hunterian Museum. The nearest approach he had ever seen in this country to the bezoar stone of the East was taken from the body of a lunatic who had been employed French polishing, and

imbibed habitually methylated spirit, containing shellac, which formed a concretion in the stomach. Straw was sometimes swallowed by lunatics, and formed concretions. As to the curious phosphatic masses mentioned by Dr. Ball, he had himself obtained specimens from a large manure manufactory, and came to the conclusion that they were metamorphosed tissue of some kind or other; but the curious thing about them was that they were phosphatic.

DR. BENNETT observed that the essential difference between the concretions which were of animal origin and those which arose under geological influence, and which they had good authority for believing to be the result of chemical or mineralogical action, was, that the latter did not present the concentric arrangements that were observable in the former.

DR. BENSON mentioned that he saw in the Whitworth Hospital a ball the size of a pill box, which was taken from the stomach of a girl ten years old, and which proved to consist of the pickings of blankets she had eaten.

#### *Fatal Meningitis after Enucleation.*

MR. ARTHUR BENSON showed the brain, and read the notes of a case of meningitis which had occurred in a girl, aged seventeen, after enucleation of a shrunken eyeball, the result of a second purulent inflammation excited in an old, blind, staphylomatous eye. Headache, vomiting, &c., began on the day after the operation. On the fourth day a bright erysipelatos-like blush occurred on the eyelids, nose, and both cheeks, which disappeared in thirty-six hours. There was no discharge from the socket of the eye which had been removed, but on the day that the red blush was first seen there was slight secondary hemorrhage from the wound. The case presented some points of difficulty about the diagnosis. Many of the symptoms pointed to suppressed scarlatina; others, simulated erysipelas; while meningitis was also strongly indicated. Death by coma occurred on the eighth day, and the autopsy confirmed the diagnosis of purulent meningitis, the whole surface of the pia mater everywhere being covered with lymph and pus. A *résumé* of nine other cases (all that the author could find records of) was given, and of the nine only two were known to have occurred after enucleation of the eyeballs in a state of purulent panophthalmitis, while four were known not to have been purulent, and in three the condition of the eye was not stated. It was thus shown that purulent disease of the eye at the time of enucleation was by no means a necessary condition for the production of consequent purulent meningitis. It was suggested that an atrophied and shrunken nerve with a loose sheath offered favourable conditions for the conduct of infection from the socket to the meninges of the brain, and that condition was present in four of the eight cases.

MR. P. S. ABRAHAM, who had made sections of the optic nerve and surrounding tissue, taken at a distance of 1 cm. from the foramen, stated the result. The nerve was profoundly altered. No distinct fibres could be made out, but the perineurion and the interfibrillar prolongations were greatly hypertrophied. The space which the latter enclose was occupied by a continuous granular material, freely interspersed with nuclei. The connective tissue of the framework was itself filled with proliferating cells, which were massed together in some places. The sheath of the nerve was thickened, and towards the outer boundary the fibrous bundles were separated by spaces containing numerous small cells and nuclei, and, further out still, these were sufficiently abundant to be looked upon as purulent deposits. Some of the sections were treated with methyl blue, and by this means he thought he could detect micro-organisms among the pus cells and between the fibrous bundles. A complete examination, however, had not yet been made. Sections of the kidney showed marked hyperæmia, the vessels being largely distended with blood, and bulged in places. No extravasations had been seen. The urinary tubules were quite occluded by the swollen and granular epithelial cells, which had lost their marginal boundary or contour. The matrix was studded with collections of inflammatory cell-growth.

THE PRESIDENT asked was erysipelas present in the hospital at the time?

DR. BENNETT said the evidence of erysipelas in the case depended largely on the appearance of the patient's face, which prevailed one evening and disappeared next morning, without any desquamation following. His opinion was that the affection was an erythema, but not an erysipelatous erythema. The rash on the face was due, probably, to nerve disturbance. He did not think there was any other case of erysipelas in the hospital.

DR. STORY agreed that there was no erysipelas in the case, nor had he thought so at first, until the enormous red swelling and blood appeared, after the occurrence of the blood-clot. After the rash disappeared, he came to the conclusion that the case was one of meningitis without erysipelas. Dr. Stoney, of Abbeyleix, had stated there were some cases of scarlatina in a building next door to where this case had been, and that made them think this case was the commencement of scarlatina, but that hypothesis was disproved. When the girl came to the hospital she was dull and stupid, and she put her hand to her head complaining of headache, so that it was possible there might have been cerebral affection, independent of the operation altogether. The case was remarkable, there being so few instances of affection of the brain occurring after enucleation of the eye. The operation was a perfectly safe one. He never saw but one case of trouble after it.

DR. J. W. MOORE said he saw the patient two days after the operation, and he was struck by the strange combination of symptoms presented—an exceedingly high temperature, and a pulse of only 80. He at once suggested meningeal trouble—a view borne out by repeated vomiting and violent cardiac action. The throat was cedematous; it was livid rather than red, and was covered with an exudation, and very like the throat of a person suffering from malignant scarlet fever. The tongue also resembled that of a scarlatina patient; but, on the other hand, the slowness of the pulse was a symptom opposed to the supposition of scarlatina. Again, the respiration was such as to prove there was nothing whatever wrong with the lungs. On all these symptoms he expressed the opinion that the case was, probably, one of meningitis, and that at any moment the rate of the pulse might double. Subsequently the pulse rose from 155 to 160. He could understand the probability of the girl, from the time she came to town, suffering from the initial stage of meningitis. There was a good deal of erysipelas in Dublin at present; but when he saw the girl, she had no trace of erysipelatous swelling, and he thought the meningeal symptoms sufficient to exclude the idea of erysipelas.

*Diabetes Mellitus—Microscopic Sections.*

MR. P. S. ABRAHAM gave a demonstration of sections from two cases of diabetes mellitus.

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*Friday, March 28, 1884.*

The PRESIDENT in the Chair.

*Two Examples of Recent Colles' Fracture.*

DR. BENNETT made the following communication:—The specimens were examples—the first, of fracture without comminution of the lower fragment; the second, of comminution of the lower fragment, the result of impaction of the upper into the lower. Having referred to his paper read before the British Medical Association in Cork, 1879, the author showed the agreement of these specimens with those exhibited by him at that time. He dwelt particularly on the simple fracture as proving that even under the condition of extreme violence such form of fracture was possible; for instance, where the patient had fallen from the topsail-yard of a vessel at sea to the deck. The author argued that, as he had already shown, fractures without comminution of the lower fragment, with reciprocal impaction of the fragments, and, lastly, fractures with complete shattering of the lower fragment, all were proved by *post mortem* examinations to be possible.

The PRESIDENT said he had seen a great many of Colles' fractures, yet he felt diffidence in expressing an opinion which was not in accord with that of Dr. Bennett, who had made fractures a subject of special study; but he thought that *post mortem* specimens of this kind of fracture were not so valuable as might at first sight appear. The usual Colles' fracture resulted from a much less amount of violence than must have occurred in cases which ended fatally and gave rise to *post mortem* examinations. The former generally resulted from falls on the hands; and it was impossible to say that they were typified by such a case as Dr. Bennett had described, and which was attended with comminution of the lower fragment. The Colles' fractures most commonly met with were transverse, and (contrary to what the late Dr. Smith taught) were frequently impacted. He did not think their knowledge of this description of fracture was advanced by examples of fracture that had resulted from falls from third or topmost windows, which were attended with much greater violence and injury to the bones than in the case of the typical Colles' fracture. For these reasons it would be always possible for a great deal to be said both on one side and on the other.

DR. CROLY concurred with the President as to the value, in reference to the present subject, of fractures resulting from severe falls. He had had opportunities of making some dissections, and one of them attracted so much attention at the Surgical Society that it was referred for examination to a committee, who reported that in their opinion the fracture was caused by penetration. It was a remarkable fact that the late Prof. Abraham Colles never made *post mortem* examinations of any cases of his fracture, and the description he had given of it had not been improved on by those who had had opportunities of making *post mortem* examinations. The only thing learned from recent investigations was, that there might be fracture with or without penetration, fractures comminuted, and also in different directions. Dr. R. W. Smith drew attention more than Prof. Colles did to the fractures that occurred close to the wrist-joint, and experience proved that the characteristic displacement of Pott was not often seen; so that students who had got it photographed on their memories might overlook fractures and treat them as sprains. Any cases he himself had had were impacted fractures, and presented characteristic displacement, but with a total absence of crepitus.

The PRESIDENT remarked that Dr. Gordon, of Belfast, who was an authority on Colles' fracture, minimised the abduction of the hand, and declared that the amount of injury done to the ulnar extremity and to the external lateral ligament was not much. Dr. Bennett's case, and also that referred to by Mr. Croly, showed that that view was erroneous. The styloid process was torn away, showing that the amount of injury to the wrist was great.

DR. BENNETT (in reply) observed that conclusions could not be drawn,

at least without qualifications, either from ordinarily obtained specimens or from dissections in which there had been great violence. The specimen he had shown proved that, even when the violence was of the greatest description, it was possible to have a Colles' fracture without impaction and with the lower fragment perfectly unbroken. He had shown that in ordinary injuries produced by falls in the street, &c., comminution occurred in two cases out of every five. If his argument was right—and he saw no reason to doubt the validity of it—comminution of the lower fragment was the result of impaction. Dr. Croly's specimen proved the existence of the impaction which Prof. Smith had denied. In nearly all the specimens preserved the radius only was kept, and in consequence of the absence of the ulna he had no statistical information to offer as to the number in which the styloid process of the ulna had been torn off. Nevertheless, that occurrence was common; and Malgaigne had figured it in his plates, and represented detachment of the ulnar styloid as a typical fact of the injury. He himself had many specimens in which both ulna and radius were preserved, proving that although the ulnar styloid was often torn off in the fracture its lesion was not by any means a necessary feature of the injury.

*Mitral Obstruction, with Complications.*

DR. QUINLAN brought forward a case of mitral obstruction, with vegetation in the passage leading to the aortic valves, and cardiac hypertrophy. He said it was taken from the body of a girl aged twenty, who had a history of rheumatic fever, with apparent endocarditis, but without any record of treatment for the latter. During life she exhibited general serous engorgement of the body, congestion and œdema of the lungs, with dyspnoea, and constant attacks of cardiac asthma. There was a presystolic murmur at the apex of the heart, and at the base there was also a slight systolic murmur. The second sound was perfect, and there was no visible pulsation. The pulse was thready and weak. There was a great increase in the area of cardiac dulness and a powerful apex impulse. These symptoms caused a diagnosis of mitral narrowing, with some vegetations in the passage leading to the aortic valves, along with hypertrophy of the heart to about double the natural size. There was great œdema, particularly in the right side—a circumstance which was attributed simply to dextral decubitus. During the last fortnight of life the large branches of the vena cava swelled enormously, evidently owing to the formation of a fibrous clot in the right auriculo-ventricular opening, and during the last few days there was great œdema of the lungs, and death was very lingering—a circumstance which was attributed to the formation of a clot in the mitral orifice. The *post mortem* examination showed that the heart was much hypertrophied, and weighing 14 ounces. The mitral orifice admitted one finger-tip only, and the



valves were studded with large hardened vegetations. There were similar vegetations in the passage leading to the aortic opening, but these valves were competent, as shown by the water-test. Both auriculo-ventricular openings were occupied by coagula—that in the right being white, fibrous, and very perfect, and that in the left sanguineous, with some white fibrin. There was also slight pericardial effusion.

DR. STORY asked on what evidence Dr. Quinlan concluded that the clot in the right auriculo-ventricular valve was an *ante mortem* one.

DR. QUINLAN replied that the patient's difficulty of breathing before death became very great, and the congestion of the bronchus and the vena cava became increasingly great, and at last tremendous. He believed these symptoms were caused by the clot.

DR. HENRY KENNEDY said that fifty or sixty years ago the late Dr. Harty published a paper showing the possibility of diagnosing *ante mortem* clots.

#### *Tubercular Disease of the Thumb.*

DR. BENNETT showed a specimen of tubercular disease of the thumb, consisting of half the ungual phalanx of the thumb of an old woman, which he removed last summer. There was an ulcer beneath the thumb-nail. She had no glandular disease elsewhere, or trace of trouble in the axilla or any part of the arm. The only thing was the ulcer, which had lasted for five or six years, and for which she had been treated in almost every hospital in Dublin, every means being used short of amputation. The best attempt at diagnosis he could make was that it was the ulcer of cicatrices of Hawkins and Marjolin. He believed that it originated after some form of suppuration, and that it then progressed, and finally resisted all treatment. It was warty, excavated, and extremely sensitive at the edges, and when a probe was passed it could be felt that the bone was exposed, though not naked. There was no rough or carious bone. Other treatment having failed, and the pain being such as to oblige the patient to give up her occupation, he amputated the extremity of the thumb, and the case had since done well. Dr. Purser had examined the specimen, which presented the characters of well-defined tuberculosis.

DR. PURSER said the reason why the specimen was called tubercular ulcer of the thumb was for want of a better name. By tubercular was meant a growth containing some peculiar micro-organism. In the present specimen he had not looked for a micro-organism, but the characters of the growth, as discovered by an ordinary examination, were exactly those of tubercle, with certain differences. In tubercle there were numerous little groups of cells, each constituted with a grand cell in the centre, and these cells had a peculiar form of protoplasm characteristic of tubercle only. In the present case some of the small

cells were epithelioid and others lymphoid, but there was no evidence of caseation, and that was the point in which the case differed from ordinary tubercle; but the growths themselves had quite the appearance of recent tubercles.

DR. BENNETT said that although he had not at first recognised the character of the ulcer, he concluded that amputation was the best course. This, however, was the first example of the disease that he had seen. Tubercular and scrofulous diseases affected the bones both of old and young, and were liable to be mistaken for malignant diseases, but a superficial tuberculosis existing on a surface for five or six years, and causing absorption of the bone by its pressure, were facts quite new to him.

*Mammary Tumour.*

DR. BENNETT read, for Dr. H. MACNAUGHTON JONES, a communication on sectional and microscopic drawings of a mammary tumour removed from a patient aged forty. The tumour had been quiescent for some years. Of late it commenced to grow more rapidly, and there was occasional pain. The general health was otherwise good. The tumour was hard and lobulated. There was slight retraction of the nipple. One or two axillary glands were enlarged. The entire breast, with the affected axillary glands, was removed. The diagnosis was uncertain before operation as to the nature of the tumour. The sections, well shown on the drawing, appeared rather to confirm the view that the tumour was of an adeno-sarcomatous nature, and not, as was thought, scirrhus. The cystic type was well seen. The complex character of the tumour rendered its histological differentiation difficult, save to a very experienced histologist. The cells filling the tubercles and saccules were very small and were not heterologous. All preserve the regular circular outline. The termination of a duct crowded with cells was well seen in Drawing No. 1. In parts the tumour had the appearance of a fasciculated sarcoma or fibroma. The tumour was removed last August, antiseptically. The wound healed without the formation of pus, and the patient was going on well. The painless nature of the growth and the very slow progress were against the supposition of carcinoma, but the macroscopical appearances when the tumour was cut into were in favour of scirrhus. The sections were made by Mr. George Walton.

The specimens exhibited were decided by several members of the Academy to be examples of scirrhus carcinoma.

The Section adjourned.

## MEDICAL SECTION.

President—WILLIAM MOORE, M.D., President, K.Q.C.P.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

*Friday, March 14, 1884.*

The PRESIDENT in the Chair.

*Living Specimens.*

DR. M. A. BOYD.—Case of congenital cardiac disease, with inter-ventricular communication. DR. WALLACE BEATTY.—A rare form of skin disease.

In reply to DR. WRIGHT,

DR. BOYD described the case he exhibited as one of congenital communication between the ventricles in a child ten years old. The child had been delicate from birth, and as an infant had been very near dying. Recognising the case as one of cardiac disease, on examination he found a systolic murmur localised between the nipple of the left breast and the middle of the sternum, on a line with the nipple, extending upwards to the cartilage of the third rib on the left side. Within this boundary the murmur was loudest. There was more or less hypertrophy of both ventricles. The left ventricle acting stronger in its contraction than the right, caused, in his opinion, the hypertrophy of the right, which in this is greatest. There is a possibility of some congenital obstruction at the pulmonic orifice to help to produce this, as the murmur is propagated towards this opening.

*Specimens exhibited by Card.*

DR. C. J. NIXON.—Cirrhosis of the kidney and its effects.

*A Rare Form of Skin Disease.*

DR. WALLACE BEATTY read a paper describing two cases affected with a peculiar form of skin disease, resembling in some of its features urticaria pigmentosa. The patients were two brothers, aged respectively fifteen and twelve years. The disease first appeared at the age of twelve in the elder brother's case, and at the age of eleven in the younger. The course of the affection appeared to be as follows:—An itchy spot manifests itself without any appearance of eruption. The patient scratches it; redness, and sometimes, according to the elder brother's statement, an appearance like hives is seen. This subsides, and in a few hours a slight raised pimple is observed, pin-head size or a little larger. This soon flattens, enlarges, and becomes dull brown pigmented, forming a

circular spot about three-eighths of an inch in diameter, presenting to the finger passed over it either the feel of normal skin, or of skin rather tougher than normal. This pigmented skin spot is unaltered by pressure. After a little the centre becomes whitish, the pimpling remaining brown, and, finally, the brown colour disappears, leaving white spots of different sizes, some very small, others large, but the greater number smaller than the brown macules. Some of these white spots are on a level with the surface of the skin, and firm to the feel, while others present minute depressions somewhat thimble, or minute grooves radiating from the centre, appearing like scars. All these varieties, pimples, brown macules, macules with a brown pimpling and whitish centre, and white spots are present on various parts of the body—the front and back of the chest being most affected. A mottled appearance is thus produced, which is specially evident on the back. The abdomen and genitals are spared. The face is only a little affected, and the flexor aspect of the limbs but slightly affected. Dr. Beatty could not develop factitious wheals. There is no reason to suspect syphilitic taint. The disease, while it resembles urticaria pigmentosa, in the presence of some itchiness, wheals produced by scratching, and subsequent pigmentary changes, is distinguished from all cases of that disease formerly described in the following points:—(1) The disease commenced several years after birth; (2) the spots are at first chiefly papular and rapidly flatten. They are not, as in most of the cases of urticaria pigmentosa, in the form of vesicles, tubercles or nodules, and localised infiltrations. (3) The final stage, the formation of white spots, is peculiar.

DR. WALTER SMITH said there could be no question that the disease described was one of great rarity and of considerable practical importance on account of the possibility of confounding it in younger patients with erysipelas, and in the older with stains left by secondary rash. He saw both boys some weeks ago, and was struck by the peculiar features of the disease as described by Dr. Beatty, the trophic changes, and the production of scars without any vesication, pustulation, or breach of surface. It was not easy to give the disease a name other than that mentioned by Dr. Beatty—urticaria pigmentosa. Of the ordinary form of urticaria the usual features were suddenness of onset and rapid evanescence. The eruption here began early in life, persisted for months and years, and went through cycles of aggravation and decline, and in these respects presented marked features of contrast with ordinary urticaria. It was a question whether it should be put under the same heading at all. Any one who looked at the picture of Dr. W. Marrant Baker's cases in the "Clinical Society's Transactions" would say the eruption approximated nearer to Dr. Beatty's case than the illustration in Dr. Tilbury Fox's "Atlas." Dr. Beatty had laid stress on the difference observed in his own case, as compared with those already recorded. As there had been only

nineteen cases recorded, the natural history of the disease, if it had any, was not exhausted, and, therefore, it was obvious Dr. Beatty might have an opportunity of recording features in the disease hitherto not met with by other observers. As to what could be done for patients suffering from the disease there was little to be said beyond the fact that they must be content to await the will of the great Healer of all diseases.

DR. FINNY said it was usual to find pigmentation following a great many eruptive diseases. There was a red or blood spot where there had been scratching, and it was quite possible the rash of the itching spot might be pruritus, but there was also spots at the back. The case was a great puzzle, and the chief point of interest was the importance of distinguishing it from the congenital and acquired forms of specific disease.

DR. BEATTY (in reply) pointed out that the spots developed spontaneously, and that at all events it was obvious all of them could not have been produced by artificial scratches.

*Case of Temporary Spinal Paralysis.* By S. M. MACSWINEY, Physician to Jervis-street Hospital.

*History.*—Louis ———, aged six years, a healthy boy from his birth, reared in the country, was attacked with "whooping cough," August 1st, 1883. This attack, which was rather severe, had, however, nothing unusual about it, and the boy was free from "whoop," and regarded as being well at the latter end of October, about three months from the onset of the disease. About this time it was noticed that he had commenced to cut up his first four "permanent" molar teeth. In December following he was one day exposed to cold and rain for several hours on an outside car. Next day he "had a cold," his throat was sore, and he had red, enlarged, and inflamed tonsils, on which were several white specks. His tonsils were touched with caustic solution once or twice, and this attack was over in a week. About this time, also, his parents remarked that the boy when walking "wriggled" one leg somewhat, and tripped up, now and then, when running. This was ascribed to awkwardness, and no particular notice was taken of it. Presently he was observed to hold his head on one side, depressed towards the left shoulder, and he was chided for what was looked on as being a mere idle habit. He came to Dublin about the 18th of December, 1883, when his general health was, it is stated, good. When I saw him, towards the latter end of January, 1884, he had well-marked "wry neck," and stumbled, now and then, in walking. In all other respects he appeared to be in perfect health. Soon after this his legs became weak, then his upper extremities (with the exception of his hands, which were not much interfered with at any time) showed decided loss of power. The muscles of the trunk were also markedly enfeebled. I took him into hospital on February

7th, 1884, soon after which time I made the following note—"Is a bright, healthy, and intelligent-looking boy. His nutrition is excellent; he holds his head depressed towards the left shoulder. He is able to adjust this faulty state at will, and keep it right for a brief period, but it soon relapses into the abnormal position. His legs are very weak, and he walks in a tottering, straggling way, but is able to progress indifferently well on the level. He makes great attempts to ascend the steps of a stairs, but is quite unable to accomplish this act by his unaided efforts. His 'grip' is distinctly feeble. When about to eat or drink he bends his head down to meet his hand, which he cannot bring up to his mouth. His speech and voice are in no way affected. Both pupils react normally and equally to light. The 'sole of the foot reflex' is well marked. The cutaneous surface of his trunk appears unusually sensitive—he shrinks, as if tickled, when the lightest touch of the hand is made upon his skin. He protrudes his tongue straight, in mid-line; it is not hastily retracted; it is slightly coated white. Bowels and bladder functions are normally performed. His bowels, however, are costive. Careful auscultation reveals nothing abnormal in either the circulatory or respiratory systems. He is cheerful, sleeps well, has a good appetite; makes no complaint of pain. It occasionally seems as if some slight choreic movements of his arms and hands occurred—more so, I think, after he has been subjected to much examination; but closer scrutiny renders it, on the whole, more probable that these stirrings are merely the result of nervousness. His urine is normal, quite free from albumen." So far the first clinical note. The enfeebled condition of his muscles continued to increase—the paralysis rapidly advanced, and on February 12th the loss of power was complete. He now could not use his arms at all; and he not only could not walk, but he could not even stand alone. He was confined to bed, and, as he lay upon his back, was able to pull up and extend his lower limbs with some difficulty, but that was all he could do. He had to be fed, and to be lifted in and out of bed when answering the calls of nature. When an assistant, placing his hands under the boy's arms, held him up, telling him to walk, he could not move his legs—they dangled about as though they were dead; still he continued to look the picture of health, ate and slept well, had no paralysis of the several sphincters, and, in fact, made no complaint of anything. I tested his muscles with the electro-magnetic current, and they responded as in health. I applied a current of galvanism from a ten-celled Leclanché battery (which appeared to be in action) to the muscles of his leg; there was no reaction manifested therefrom; but this result was invalidated by the fact that no effect was produced by the same current upon several others whom I tested in like manner. The battery, it was subsequently ascertained, was out of order. In like manner I failed, after many trials, to develop the "patellar tendon reflex phenomenon" in this boy. But

as he offered decided resistance to the movement of his leg I must regard the presence or absence of this symptom in the patient as being undetermined.

He remained in this utterly paralysed state, unable to help himself in the least particular, for about eight days, preserving all the while his cheerfulness and good looks. Then an improvement in his symptoms began to show itself, gradually, but not slowly. Motility returned to his muscles, beginning in those of the upper, and extending to those of the lower extremities. His recovery was rapid, as had been the development of the paralysis; and in the last week of February he left hospital to all appearance quite well.

The nature of this attack of paralysis is, it appears to me, obscure. One cannot fail being struck, however, with the remarkable similarity which the principal characteristics of this attack bear to those of Landry's disease. This latter, no doubt, is usually found in men of from twenty to forty years of age, and generally ends fatally. With these exceptions, which are important ones, this boy's attack did not differ, strikingly, from "paralysis ascendens acuta," which, according to Erb, has, briefly stated, the following distinguishing features—viz., motor paralysis, spreading rapidly, from below upwards, usually generally unaccompanied by fever, not involving in any great degree, if at all, the sensibility, the bladder, or the rectum; without atrophy, or change in the electrical excitability of the muscles, in which recovery sometimes takes place, and where, in fatal cases, no anatomico-pathological changes are to be found.

As to its ætiology, I find difficulty in referring it, unreservedly, to any one particular cause. Discarding the more serious forms of paralysis in the young, those, namely, where some gross anatomical lesion—the so-called organic change—has taken place in the brain or spinal cord, and confining myself to those whose effects are usually transitory, I have to consider the following examples of loss of motility in muscles of children as possible factors in the attack I have reported—viz., (a) diphtheritic paralysis; (b) choreal paralysis; (c) paralysis from peripheral irritation, e.g., cold; (d) reflex paralysis from worms; (e) reflex paralysis from dentition; (f) anæmia of the antero-lateral columns of the cord from the exhaustion produced by the "whooping cough." Rejecting, on what I regard as sufficient grounds, chorea and diphtheria as sources of the paralysis, there remain cold, worms, anæmia of the cord, and dentition, to any one of which causes the affection might reasonably be referred. The cold, from exposure on the car, probably expended itself in the attack of tonsillitis; the absence of intestinal worms was rendered tolerably certain by the failure of anthelmintics to cause the discharge of any such; whilst anæmia of the cord was, perhaps, scarcely consistent with the perfect nutrition and general good health which the boy enjoyed.

By this process of exclusion I am driven to the conclusion that in the irritation set up by difficult dentition is to be found the explanation of the train of symptoms described.

As regards the treatment, I have nothing of much importance to report, except in reference to a procedure which I employed, and to which I shall presently return. *Rest* would be considered, probably, a primary indication of treatment in such a case as this. At any rate it was here unavoidable, as when the affection was at its height the patient was absolutely and universally powerless to move.

A search for "worms" was instituted, and, at suitable intervals, three doses of castor oil and turpentine were given; but no intestinal parasites were brought away. Faradisation was used a few times, chiefly, however, for diagnostic purposes. Small doses of iodide of potassium were given for a period of about ten days.

The procedure to which I have referred (and to which I attach much importance as a curative agent in this case) was the incising of the gum over a molar tooth, which was firmly bound down by a dense and hard structure, through which it appeared to be quite unable to cut itself. About the time when the affection was at its worst I made a cross-shaped division of this tissue, grating the edge of the lancet on the crown of the tooth, and I repeated the cutting in a couple of days. Upon each occasion a not inconsiderable quantity of blood flowed away. Coincidentally with this lancing the symptoms got better, and I am disposed to connect the lancing and the improvement as cause and effect. The view I take is, that the simultaneous emerging of these four permanent teeth would be likely to set up a condition of reflex irritation which would reach a climax when the last to emerge was stopped in its progress by a tough, hardened gum which it could not, unaided, pierce. Thus, then, attributing the symptoms to the second dentition, my reading of the case, not arrived at without misgiving, is—exalted reflex irritability, excited by difficult dentition, producing a dynamic lesion of the cord, unaccompanied, I assume, by any structural alteration, and culminating in an attack of "temporary spinal paralysis."

DR. HENRY KENNEDY considered the extraordinary feature of the paralysis was its short duration. Having seen the case, he regarded it as presenting the appearance of a modification of chorea. No doubt the state of the mouth had a good deal to say to its development. He had seen a good many cases where purging sufficed to cure the disease.

DR. GUNN, having observed the case from the admission of the little sufferer into hospital until he left, said he felt puzzled at first as to the prognosis, because the child was going from bad to worse, and becoming completely paralysed. He would have given an opinion that the case was one of paralysis pure and simple. Dr. MacSwiney had not laid sufficient stress on the choreic symptoms which at first developed. The



rapid cure was entirely owing to the removal of the exciting cause by Dr. MacSwiney, having lanced the gums.

DR. NIXON was chiefly interested in deciding what the case was originally. From the observations at the end of his paper Dr. MacSwiney would regard the case as one of reflex paralysis, probably tracing the origin of the paralysis to an irritative process going on in the gums. But he was himself disposed to think that as their knowledge of nervous diseases progressed the less inclined they would be to attribute traces of paralysis to reflex causes, and the term reflex paralysis would become more and more rare. The occurrence of paralysis from peripheral irritation—such as worms in the intestines, or the irritation going on in the development of teeth—was very unusual. As the result of the investigations of Brown-Séquard, it was shown that in those cases where paralysis occurred from peripheral irritation, what was dealt with was not a reflex process, but an ascending neuritis. In children peripheral irritation connected with the teeth, and transmitted to the nervous system, would not result in paralysis but in convulsions; and, consequently, he would not regard Dr. MacSwiney's case as one of reflex paralysis. Then what was it? Dr. MacSwiney had given a clear history that at the starting point of the disease the patient had had sore throat, with a number of white patches on the throat, and he would regard the case as one starting in diphtheria, and the paralysis that ran such a rapid course, as diphtheritic paralysis. He did not think there was the special type so well marked as usual in Landry's paralysis. There was a typical case of this affection at present in Dundrum Lunatic Asylum.

The PRESIDENT regarded Dr. MacSwiney's case as of great practical interest. It recalled a case in his own experience—a young girl, aged fifteen, who had nasal utterance and difficulty of swallowing. She became ataxic. Previously to coming under his care she had suffered from sore throat. In some respects his case differed from Dr. MacSwiney's. There was albumen in the urine, and recovery, though perfect, was not so rapid. He held with Dr. Nixon that the sore throat in Dr. MacSwiney's case was the beginning of the formidable lesion to which he had referred, and had the patient been twenty years older the paralysis would have been of longer duration.

DR. MACSWINEY (in reply) said the President's case was, no doubt, one of true diphtheritic paralysis, but he found it utterly impossible to regard his own as due to diphtheritic affection, and there was absolutely no chorea present in any portion of the history of the case. Chorea was manifested mainly by clonic convulsions, but at no time were such convulsions present. Authorities the most eminent had placed upon record cases in which extremely well-marked ataxic paralysis was referred to dentition. Dr. West had recorded a valuable case of paralysis due to the extrusion of molar teeth. Therefore, in urging that

the case was probably due to the reflex irritability or excitability consequent on dentition he was doing that which appeared to be likely from the history of the case, and of similar cases recorded in great numbers.

*Ætiology of Climatic Fevers in India.*

Dr. A. N. MONTGOMERY, at the request of SURGEON-MAJOR GORE, A.M.D., read, by permission of the Council, a paper on the ætiology of the common climatic fevers of the Kumaon Hill Ranges. [It appeared in the number of this Journal for April, page 306.]

The discussion on this paper was postponed till next meeting owing to the lateness of the hour.

The Section adjourned.

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SUB-SECTION OF ANATOMY AND PHYSIOLOGY.

President—PROFESSOR J. M. PURSER, M.D.

Sub-Sectional Secretary—JOHN FREEMAN KNOTT, F.R.C.S.I.

*Thursday, February 7, 1884.*

The PRESIDENT in the Chair.

*Microphotography.*

DR. SCOTT exhibited specimens of microphotography and the camera by which they were produced. Seeing Dr. Dickenson's instrument at the previous meeting he thought it was a very good one, but too expensive, and he devised the camera himself by which the photographs exhibited were produced. The instrument was so simple and cheap that anybody possessed of a penknife and the lid of a cigar box could, with a little mechanical skill, make one for himself. The photographs proved what the instrument could accomplish. Sections of the gastric glands and duodenum were sufficiently sharp as to bear enlargement to diagram size for a lecture theatre. Practically the working of the camera was on the same principle as that shown by Dr. Dickenson. In Dr. Dickenson's camera there was an arrangement for sliding the ground glass in and out of its place. In this one, however, the sensitive plate was simply laid in the place previously occupied by the round glass. The removal of the camera from the microscope proved not to alter the focus. In this way, after an exposure of two minutes, he took pictures.

The PRESIDENT asked whether there was any risk of the light getting in at the side, and whether the pictures exhibited were taken by daylight?

DR. SCOTT.—No; but by a half-inch paraffin lamp, not even a duplex. I have not found the slightest difficulty about the admission of light.

MR. ABRAHAM inquired what kind of stains Dr. Scott found most suitable?

DR. SCOTT, in reply, said, speaking from a photographic point of view, he thought red stains were the best, such as carmine, which brought the stained portions out perfectly black and sharp. A blue stain, or even a colourless object if sharp, like a diatom, carefully treated, came out well. If a section was very thin it had better be stained with some red dye; but he had photographed a colourless diatom by the camera sufficiently sharply to bear enlargement up to 10,000 diameters. One of the enlargements exhibited was 1,500 diameters, and yet sufficiently sharp for a lecture theatre.

MR. ABRAHAM said the photographs were very sharp, so that the method of producing them was a good one, and therefore of great advantage to pathological and microscopic observers.

*Note on an Epiphysial Lamina on the Basi-occipital Bone of an American Tapir.*

MR. P. S. ABRAHAM, in his communication, stated that on examining the skull of a young American tapir which died last year in the Zoological Gardens in Phoenix Park he found a well-defined sutural line, situated near the anterior border of the basi-occipital bone (bordering upon the junction with the sphenoidal bone), on the superior surface. On applying the point of a knife, a thin lamina of bone was prised up. In position and appearance it bore a strong resemblance to an epiphysial ossification, and reminded him of the ring-like epiphysis often connected with the vertebral centre. It is so closely affixed, and evidently beneath the level of the periosteum, that he did not think it to be an accidental ossification of the dura mater; it rather seemed to be of an epiphysial nature. In order to obtain the opinion of the members of the Anatomical Section on the point, he had brought forward the specimen. Seeing that most anatomists now admit the basi-occipital to be serially homologous with the vertebral centre, the observation might be of some interest. Epiphyses ossify late and may become ankylosed soon. It was possible that this particular one had not been noticed, as not having been looked for in a complete series of the young skulls of various animals. Up to the present he had not succeeded in finding a second example.

MR. J. FREEMAN KNOTT said the point was a very interesting one to anatomists. The last book he had been reading on the subject was Hannover's on the Primordial Cartilage. This author made two vertebral segments of the basilar portion of the skull, and said that the junction of the vertebral portion was found at the spheno-occipital suture. According to this view Mr. Abraham's epiphysis would correspond to the superior accessory disc of the upper segment.

*The Accessory Nerve of Willis.*

MR. J. FREEMAN KNOTT, in his communication, gave a classified list of the chief varieties in the origin and course of the spinal accessory nerve that had fallen under his observation, and compared them with the published records of other observers. This was followed by a historical sketch of the progress of our knowledge of the functions of this nerve, in which special attention was directed to its influence on the cardiac movements.

The PRESIDENT remarked that François-Franck had experimented on different animals, and believed that in most cases it was utterly impossible to tear out the spinal accessory without injuring the roots of the pneumogastric to such an extent as to spoil the experiment. Indeed François-Frank believed that most of the discrepancies reported were due to this cause.

The Sub-section then adjourned.

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**TRACHEOTOMY—ALIMENTATION OF CHILDREN AFTER.**

PROF. ST. GERMAIN, in a recent article on this subject in the *Revue Mensuelle des Maladies de l'Enfance*, gives directions for the proper feeding of children upon whom tracheotomy has been performed. The children generally refuse food, and are consequently deprived of the means of building up the strength. This is due to several different causes; one of the first is the bad disposition of the child which has not been sufficiently controlled. Pain on deglutition is another, often caused by the wide and deep eschars produced by the cauterisations so frequently and unwisely applied by a great number of physicians. Others again, especially in an advanced stage of the disease, are affected with paralysis of the palate which makes deglutition impossible, as all liquid food is regurgitated through the nose. M. St. Germain has employed in all these cases a procedure which has been recommended and used after surgical operations on the mouth or tongue which incapacitate the patient's swallowing. A caoutchouc sound of medium calibre is introduced through one nostril, and passed through into the stomach. Through this milk, bouillon, wine, and other liquid foods may be injected—such as are employed in ordinary practice when a liquid diet is necessary. This procedure has been used a large number of times at l'Hôpital des Enfants, and has given most excellent results. It is easily performed, there is no danger of making a false passage, and the canula already in the trachea precludes the possibility of the sound going into that passage.—*Bull. Gén. de Thérap.*, and *Midland Medical Miscellany*, April 1.

# TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

SESSION 1883-84.

President—PROFESSOR DILL, M.D.

Hon. Secretary—WILLIAM G. MACKENZIE, M.D.

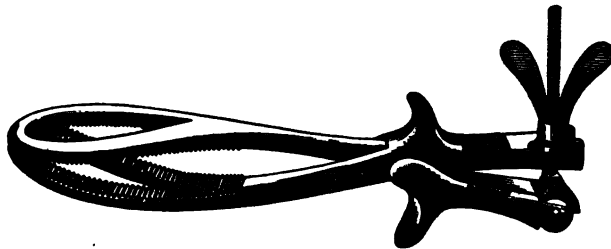
Tuesday, April 1, 1884.

PROFESSOR DILL in the Chair.

*New Cephalotribe.* By DR. JAMES SMITH, Shankhill-road.

THE following are the chief peculiarities of the cephalotribe I show :—

1. It is longer than those in use, being 15 inches, of which the blades are 10 and the handles 5, therefore better adapted for operations at or above the pelvic brim. Each blade and handle is measured from the lock respectively.\*



2. In breadth of blade and pelvic curve this cephalotribe is similar to Barnes' long forceps—an instrument I have used upwards of six hundred times in 4,000 deliveries. I have therefore modelled my cephalotribe on the lines of a forceps whose efficiency I have fully proved. Further, as I believe axis-traction depends more on the accoucheur than his tool, I discard all useless encumbrances, such as traction rods with the accompanying belly-band or waist belt.

3. The cephalotribe possesses also a very moderate cephalic curve; this facilitates introduction, and combined with the pelvic curve renders slipping less likely when the head occupies a very anterior position above the pubes. Here straight cephalotribes fail.

4. This cephalotribe is much less formidable and more efficient than those of Hicks, Kidd, &c., and can be applied in the same manner and

\* The free borders of the grooves look towards the lock, and not towards the apices of the blades, which might be inferred from the woodcut.

with as great facility as the ordinary obstetric forceps. The services of an assistant are optional.

5. When the screw is applied to its utmost limit the space occupied by the blades is one inch and a half.

6. The shoulders, in addition to affording greater tractile power, facilitate rotation. They should be of a piece with the handles, and not "dovetailed" therein.

7. The fenestræ yield the following advantages:—(a.) They add to the lightness of the cephalotribe. (b.) As compression goes on the head bulges through (almost to a level with the outer surfaces of the blades), and enables the instrument to hold with much greater tenacity. (c.) For the same reason expansion is obviated to a great extent in one direction, while compression is going on in another.

8. The grooves prevent slipping also, but these might perhaps be dispensed with if the instrument were used only as a cephalotribe; but its employment as a craniotomy forceps in some cases of extreme pelvic distortion, and more especially in those cases where mal-presentation of the foetal head coexists with maternal deformity (*e.g.*, the face with approximation of the tubera ischii), the instrument has proved vastly superior to the craniotomy implements hitherto in use, and has, in the opinion of the leading accoucheurs of the North of Ireland, superseded them entirely. The grooves are, in my opinion, indispensable to the efficiency of the instrument as a combined cephalotribe and craniotomy forceps.

9. The weight of the cephalotribe is about  $2\frac{1}{2}$  lbs. The ponderosity of the instrument is considerably augmented by the somewhat heavy but withal neat handles. However, obstetrically speaking, I am a believer in weight—indeed I cherish the conviction that the maternity physician—to be an efficient one—should overbalance twelve stones, while the occupant of the "Master's Chair" should counterpoise at least sixteen.

10. The practical utility of this cephalotribe is best proved by the fact that it has been successfully used during the past seven years in upwards of thirty instances, some of course being repetitions on the same patient, but the record of one case will illustrate all. Here follow the particulars of a case I narrated to the meeting of the North of Ireland Branch of the British Medical Association, January 17, 1879. On that occasion I not only showed my depopulating tool, but I exhibited its foetal victim. The child weighed at time of birth  $8\frac{1}{2}$  lbs., and was extracted from a woman on whom the operation of craniotomy had been twice performed by Professor Dill and others. On the last occasion the exostosis on the sacral promontory had progressed to such an extent as to preclude the application of Barnes' long forceps in any diameter. My cephalotribe was applied by Professor Dill and myself, and delivery was accomplished with ease and safety in almost as many minutes as the

previous confinements occupied hours. *Recourse was not had to the perforator or other instrument.* Let me now apply myself more directly to the business in hand—namely, to show the utility of this cephalotribe as a craniotomy forceps. After more than five years' rest, during which the pelvic deformity had much increased, this interesting patient again became pregnant, and in the fulness of time sought our professional services. The facts are briefly as follow:—On the forenoon of Monday, March 24th, of the present year, I was hastily summoned to the parturient couch of this distorted female, and on vaginal examination I detected the right hand presenting through a somewhat rigid os of the size of half-a-crown. Anticipating Professor Dill's arrival, I introduced per rectum a suppository containing  $\frac{1}{2}$  gr. mur. morph. and gr. i. ext. belladonnæ. This medicament soothed the patient and softened her os. About an hour after the introduction of the suppository Dr. Dill arrived, examined the patient, and found the right hand in the vagina and the os tolerably well dilated and dilatable. We determined on immediate action, and the patient having been chloroformed by Professor Dill, I proceeded to deliver by podalic version. At first I grasped both feet, but on coming to the obstruction I had to relinquish one, the right, but I succeeded in retaining the left in custody until it cleared the vulva. Traction was now made on the liberated limb, and after the employment of much force the breech appeared, soon followed by the rest of the body, including the arms. At this stage Professor Dill and I conjointly manipulated the body, so as to release the after-coming head, but our efforts were unavailing. The last act of the tragedy consisted in the reduction of the head by the perforator and its extraction by means of the cephalotribe. The administration of chloroform and the accomplishment of delivery occupied only fifteen minutes. The patient made a rapid and complete recovery, resuming her domestic duties within a week after the operation.

#### STRYCHNIA IN DELIRIUM TREMENS.

DR. DUJARDIN-BEAUMETZ (*Bulletin de Thérapeutique*, January 15th), while disagreeing with the opinion of Dr. Luton, of Rheims, that strychnia is the appropriate medical agent for combating alcoholism in general, is quite in accord with him as to its great value in the treatment of *delirium tremens*. In this it is one of the most certain and efficacious of remedies which he has successfully availed himself of in many cases at the St. Antoine Hospital. He administers it in hypodermic injections, beginning with a dose of five milligrammes, which he repeats in five hours. Sometimes, if the symptoms persist, he gives a third injection within the twenty-four hours.—*Medical Times*.

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P., F.R. Met. Soc.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, March 22, 1884.*

Towns	Population in 1884	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES								Deaths from Phthisis	DEATH-RATE per 1,000	
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	From all causes		From seven Zymotics	
Dublin,	351,014	818	717	126	177	-	2	19	2	13	16	8	101	26.6	2.3	
Belfast,	216,622	571	434	75	85	-	-	12	1	10	7	10	74	26.1	2.4	
Cork,	80,124	192	181	29	51	-	3	3	-	3	4	1	18	29.4	2.3	
Limerick,	38,562	81	74	8	28	-	-	2	-	4	1	2	7	25.0	3.0	
Derry,	29,162	56	62	8	11	-	-	7	-	5	1	1	6	27.6	6.2	
Waterford,	22,457	56	57	7	10	-	-	11	-	9	-	1	3	33.0	14.7	
Galway,	15,471	31	26	5	14	-	-	-	1	-	-	-	1	21.9	0.9	
Newry,	14,808	26	19	3	1	-	-	-	-	-	2	1	2	16.7	2.6	

### Remarks.

In the eight selected towns included in the foregoing Table the highest death-rates are 33.0 per 1,000 of the population annually in Waterford, 29.4 in Cork, 27.6 in Derry, and 26.6 in Dublin; the lowest rates are 16.7 in Newry, 21.9 in Galway, 25.0 in Limerick, and 26.1 in Belfast. The rate of mortality from seven chief zymotics ranged from 14.7 per 1,000 per annum in Waterford, 6.2 in Derry, 3.0 in Limerick, 2.6 in Newry, 2.4 in Belfast, and 2.3 in Dublin and Cork, to 0.9 in Galway.

The recorded deaths represented a rate per 1,000 of the population annually of 21.9 in twenty-eight large English towns (including London, in which the rate was 20.8), 25.8 in the sixteen chief towns of Ireland, 26.0 in Glasgow, and 20.1 in Edinburgh. If the deaths (numbering 21) of persons admitted into public institutions from localities outside the Dublin Registration District are deducted, the death-rate of that district becomes 25.8, while that of the portion of the district included within the municipal boundary appears as 29.4.

Acute febrile zymotics were returned as the cause of death in 71 instances in the Dublin district, compared with 72 in the preceding four weeks and a ten-years' average of 124.3 in the corresponding period.



This group of maladies therefore continued to be little more than half as fatal as usual. The 71 deaths included 19 from scarlet fever, 16 from "fever," 13 from whooping-cough, 8 from diarrhoeal diseases, and 2 from diphtheria. The epidemic of scarlet fever is apparently showing a slight recrudescence, as the deaths have risen from 17 in the previous four weeks to 19. Of the 16 deaths referred to "fever," 5 were ascribed to typhus and 9 to enteric fever, while in two instances the exact nature of the fever either was not specified or was ill-defined. Twelve children aged between one and five years succumbed to scarlet fever. Twelve also out of the 13 victims of whooping-cough were under five years of age, and four of them were not a year old.

The epidemic of measles continues to subside rapidly in Cork, where only 3 deaths were caused by it, compared with 10 and 20 in the two preceding periods.

Scarlet fever was again less fatal in Belfast, but as fatal as before in Derry—the deaths being 12 and 7, compared with 14 and 7 respectively. Whooping-cough still shows a widespread prevalence and fatality. In Waterford it caused 9 out of a total of 57 deaths. Diarrhoeal diseases were credited with 24 deaths in the eight towns, against 28 in the previous four weeks.

In the Dublin Registration District 818 births and 717 deaths were registered, compared with 795 births and 815 deaths in the previous four weeks and 787 births and 720 deaths in the first four weeks of 1884. The births were those of 420 boys and 398 girls. The deaths of infants under one year fell from 169 to 126; those of persons aged sixty years and upwards fell from 206 to 177.

The deaths referred to pulmonary consumption in the eight towns were 212, compared with 220, 189, 170, and 173 in the four preceding periods of four weeks each. In Dublin diseases of the respiratory organs are stated to have caused 126 deaths, against 157, 161, 185, and 165 in the four preceding periods, and an average of not less than 220·5 in the corresponding four weeks of the previous ten years. The 126 deaths included 81 from bronchitis (average = 160·9) and 22 from pneumonia (average = 33·2). These figures again as in past periods bear testimony to the extreme mildness of the present season. Of the 81 persons who succumbed to bronchitis, 15 were infants under twelve months, whereas 30 had passed their sixtieth year.

On Saturday, March 22, 1884, there were under treatment in the principal Dublin hospitals no cases of smallpox, 1 case of measles, 46 cases of scarlet fever, 45 of typhus, 23 of enteric fever, and 10 of pneumonia.

The mean temperature of the four weeks was 44·5° in Dublin, 42·4° in Belfast, 46·6° at Roche's Point, Co. Cork, 44·0° at Greenwich, and 41·8° at Edinburgh.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.  
Long. 6° 15' W., for the Month of March, 1884.*

Mean Height of Barometer,	-	-	-	29·829 inches.
Maximal Height of Barometer (on 27th, at 9 a.m.),				30·286 „
Minimal Height of Barometer (on 9th, at 9 p.m.),				28·995 „
Mean Dry-bulb Temperature,	-	-	-	44·8°.
Mean Wet-bulb Temperature,	-	-	-	41·8°.
Mean Dew-point Temperature,	-	-	-	38·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	·235 inch.
Mean Humidity,	-	-	-	78·8 per cent.
Highest Temperature in Shade (on 16th),	-	-	-	61·1°.
Lowest Temperature in Shade (on 11th),	-	-	-	31·2°.
Lowest Temperature on Grass (Radiation) (on 11th),	-	-	-	24·0°.
Mean Amount of Cloud,	-	-	-	63·3 per cent.
Rainfall (on 17 days),	-	-	-	1·858 inches.
Greatest Daily Rainfall (on 9th),	-	-	-	·467 inch.
General Direction of Wind,	-	-	-	S., S.E., and W.

*Remarks.*

The weather was generally favourable, and an exceptionally dry period lasted from the 13th to the 31st, the rainfall not amounting to one-tenth of an inch. Unusual warmth for the time of year prevailed between the 14th and the 19th—on the 16th the thermometer rose to 61° in Dublin and to 70° at Cambridge. The mean temperature of the whole month (44·9°) was about 2° in excess of the average of March in the twenty years, 1865–84 inclusive. The rainfall (1·858 inches) fell short of the average of the same twenty years (2·082 inches), but the rainy days (17) were almost exactly the average (16·6). Sleet or snow occurred on the 10th and 31st, hail on the 20th and 31st. The atmosphere over Dublin was foggy on the 4th and 24th. Solar halos were seen on the 9th and 15th, lunar halos on the 5th and 12th. The wind blew freshly or strongly on 12 days.

During the first week the weather was very changeable, showery, or rainy. At times, indeed, there were fine bright intervals—notably on the forenoon of the 8th, when the sky was cloudless and the air unusually transparent. The 2nd and 3rd were cold days in Great Britain, where snow and sleet fell heavily, but mild in Ireland.

Gradients for southerly winds existed over the British Islands throughout the second week, except on the 11th in England, when a deep secondary depression crossed the S.E. of that country towards N.E., causing N. winds for the time being. Although the winds were S.W. in Ireland, the weather was very cold until the 12th, when a decided

rise of temperature occurred. On the 10th snow lay in great depth upon the Dublin mountains, and even in the city a sharp snowstorm occurred at 1 p.m. The next morning was frosty. On the 12th the weather became mild and chiefly fine, although cloudy. The 15th and 16th were remarkably warm and summer-like in nearly all parts of the United Kingdom. A large anticyclonic system, lying over the Continent to the eastward of our Islands, produced southerly (S E. to S.W.) winds and fine, dry, warm weather. In the course of Sunday, the 16th, the thermometer in the shade rose to 60° at Shields, 61° in Dublin, 62° at Mullaghmore, Co. Sligo, 63° at Ardrossan, 64° at Holyhead, 65° at Nairn and Liverpool, 67° at Oxford, 68° at Leith, York, and in London, 69° at Loughborough, and 70° at Cambridge. The following day was nearly as warm in Great Britain, but temperature gave way somewhat in Ireland, as the weather became less settled under the influence of depressions which began to skirt the western coast in their passage towards N. or N.E. The most serious of these disturbances crossed the extreme N. of Scotland on the night of the 19th, the barometer falling to about 28·80 inches in the Orkneys at 8 a.m. of Thursday, the 20th. Fresh gales—at first from S.W., then from N.W.—occurred in Ireland and Scotland, but comparatively little rain fell, and as the depression passed away the air became particularly dry and searching. Hail fell in Dublin on the 20th, and in the evening a thunderstorm occurred at Holyhead.

A period of quiet, cool, dry weather ensued. About the 24th an anticyclone formed over Northern Europe, and this system governed the weather until the end of the month. The wind backed to S.E. and E., the air became very dry and searching, and a cloud canopy of no great depth (as is usual in winter anticyclones) persistently covered the sky during several days. At 9 p.m. of the 26th the relative humidity was only 59 per cent. in Dublin. Except on the 24th, when the thermometer rose from a minimal reading of 34·9° to a maximum of 52·8°, the diurnal range of temperature was not large in consequence of the clouded state of the sky. On the 30th the barometer fell quickly, as an extensive depression came in over Ireland, and the last day of the month was very cold and showery, with bright intervals. Hail fell on this day in Dublin, and at night there were severe squalls, with heavy rain and sleet.

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#### EARACHE.

THE following remedy, it is said (*Druggists' Cir.*), has never failed to afford almost instant relief:—Olive oil, 3 ii.; chloroform, 3 i. Mix and shake well together; then pour twenty-five or thirty drops into the ear, and close it up with a piece of cotton to exclude the air and retain the mixture.—*Analectic*.

## PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

### VERATRIA IN THE PRURITUS OF WOMEN.

ALL acquainted with the incessant suffering which some women undergo from pruritus at the period of the menopause, must be very desirous of being made acquainted with a prompt remedy for so distressing an affection. Whether it arise from the presence of prurigo, urticaria, eczema, herpes, or whether it exist without any eruption at all, it is alike difficult to allay, as the great number of remedies which have been proposed testifies. Of these veratria is by far the most efficacious. When the pruritus is localised at the groins, arm-pits, walls of the abdomen, or behind the ears, gentle friction night and morning with an ointment, consisting of thirty parts of lard and a quarter of a part of veratria, usually gives relief. When the pruritus is generalised, the internal administration of the veratria is preferable. Two centigrammes should be made into ten pills with liquorice powder, of which from two to six should be taken daily, either half-an-hour before or three hours after meals. Only one should be taken at a time, an additional one being given each successive day until the maximum of six (three milligrammes) is attained.—Dr. Chèvon, *Le Progrès Médical*, February 23, and *Medical Times*.

### CAFFEINE.

DR. LEBLOND (*La Tribune Méd.*) thus sums up a series of papers on the physiological and therapeutic properties of this article:—1. Caffeine is an excitant of the nervous and muscular system. 2. It diminishes the frequency of the pulse, increasing the force of the heart-beat and blood-pressure by the vasomotor constrictors. 3. It lowers the peripheral temperature. 4. It has no influence on the formation of excretion of urea. Of the poisonous dose:—1. Caffeine exaggerates the excitomotor force of the spinal cord, paralyses the peripheral sensitive nerves, and diminishes the sensibility of the pneumogastric. 2. It causes a rapid lowering of the blood-pressure through the paralysis of vasomotors. 3. The heart, in cold-blooded animals, beats slower and slower, to be finally stopped in systole; in warm-blooded animals, it becomes quicker at the close and stops in diastole. 4. It produces tetanic contraction of the muscles. 5. It rapidly lowers the temperature. 6. It increases mal-assimilation. As a therapeutic agent:—1. It is, as a rule, tolerated

much better by the system than is digitalis, and by beginning with small doses, there is no fear of the bad effects often produced by the latter. 2. It steadies the heart, increasing its force and slowing its beats. 3. It produces more or less of a diuresis. 4. Not only is it a substitute for digitalis, but it should *always* be administered in serious cases which may result in immediate death, because its action is surer and more prompt than that of digitalis. 5. It is best to administer the caffeine in small broken doses, in portions or subcutaneous injections, and to never begin with a stronger dose than 20 centigrammes, to determine the susceptibility of the patient, then to increase the dose rapidly, if necessary, to from 50 to 75 centigrammes. It is useless to give more than 1 gramme 50. 6. In affections of the heart it should always be administered when, from any cause, the patient's condition requires that the use of digitalis should be stopped or when it is not well tolerated. 7. Caffeine seems to lower the temperature in pyrexia, being useful also in these cases as a heart tonic. 8. It is frequently very beneficial in albuminuria of cardiac or other origin. 9. And, finally, in cases of strangulated hernia it seems to act upon the muscular contraction of the intestine.—*Midland Medical Miscellany.*

#### HAZELINE IN MENORRHAGIA.

ACCORDING to Mr. Henry M. Chute, menorrhagia is a very frequent ailment of women in Cape Colony. He has found a valuable remedy for it, he says, in the American witch hazel, *hamamelis virginica*, or hazeline, in doses of half a teaspoonful, in sugared water, twice or three times a day. Mr. Chute states that it acts so quickly that it is not necessary to anticipate the flow, but when menstruation, after it has lasted the ordinary time, is not closing naturally, hazeline given as above will effectually restrain it, and after hæmorrhage has ceased there is no advantage in continuing it. While thus taken, some patients have mentioned that they have a pleasant sense of exhilaration, of being strung up, and have lost that wearying sense of languor felt at these times. Another good result hazeline produces is that, when there is dysmenorrhœa, it, in a very quick and marked way, relieves the pain. Mr. Chute mentions the case of a young lady who suffered severely—so much as to necessitate her keeping in bed, and who was once so bad as to require a hypodermic injection of morphia. Since she has taken hazeline menstruation has been painless and not excessive as formerly.—*South African Medical Journal*, February 15.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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JUNE 2, 1884.

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### PART I.

#### ORIGINAL COMMUNICATIONS.

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ART. XXIV.—*Report of the Rotunda Hospital for the Year ending November 3rd, 1883.\** By ARTHUR V. MACAN, M.B.; Master of the Hospital.

THE Report of the Rotunda Hospital, which I have the honour of bringing before the Academy to-night, will deal chiefly with the application of Listerism, or, if anyone likes the term better, of antiseptics, to midwifery.

It is now many years since I became a believer in the theory—first enunciated by Semmelweis, in 1847—that puerperal fever is caused by the absorption of animal matter in a state of decomposition. Such a belief makes the position of Master of a large Lying-in Hospital like the Rotunda a most anxious one. For if puerperal fever be due to the absorption of septic matter, it is preventable; and, should it occur, one must be ready to acknowledge that its presence is due either to ignorance of the precautions necessary to prevent such an occurrence, or to failure in seeing that such precautions are rigorously carried out.

Hence, though thoroughly aware that antiseptics had been successfully introduced into many of the Lying-in Hospitals on the Continent, with the result of greatly decreasing the puerperal mortality, I was doubtful, when first appointed to the hospital, whether I was myself thorough master of the process, and, granted even that I were, whether I should be able to see that the necessary precautions were rigorously carried out.

\* Read before the Obstetrical Section of the Academy of Medicine, Friday, April 25, 1884.

Before proceeding further, however, I will first enumerate the antiseptic precautions which had been introduced into the hospital by my immediate predecessor, Dr. Atthill. These consisted chiefly in a request to the pupils and nurses in training to wash their hands with carbolic soap before examining patients. More recently a vessel of carbolic solution (1 in 40) was left beside the wash-hand basins, and pupils were expected to dip their hands into it after washing them with carbolic soap. Prophylactic antiseptic vaginal injections had also been extensively tried, but finally abandoned, as they did not seem to give any better results than the purely expectant treatment. These measures, though excellent, as far as they went, were not, in my opinion, sufficient.

Now, in considering the precautions which should be taken for the prevention of puerperal fever, it is absolutely essential that we should keep quite separate in our minds the two great classes—auto-infection, where the poison is generated within the woman, and hetero-infection, where the poison is introduced from without. The latter class is, under ordinary circumstances, by far the more numerous and the more dangerous, and is generally, one might almost say always, due to inoculation with septic matter introduced by the hands of those examining, or by instruments used in operations. Our first efforts should therefore be directed to the thorough disinfection of every hand and instrument likely to come in contact with the genitals of a woman during pregnancy, labour, or the puerperal state. Whether the septic poison is ever conveyed by the air, is by no means certain; but, till it is proved that it is not, we should endeavour to disinfect it also. Even when the woman has escaped being infected during labour, she may subsequently be so by the introduction of septic poison by the nurse while washing her, or by contact with imperfectly washed bed-clothes or napkins.

Hence, to a believer in the theory of Semmelweis, the first and most essential precaution necessary in a lying-in hospital is to refuse to allow students who are dissecting to examine lying-in women. Hereafter, when the nature of the septic poison and the proper and most powerful method of disinfection are more thoroughly understood, this may, and I trust will, become an unnecessary precaution. But with our present knowledge, and with the endless proofs that are at our disposal that puerperal fever has frequently had such an origin, I look upon it as little short of criminal to allow a student to walk from the dissecting-room to the lying-in

chamber. The first rule I made, after being appointed Master of the Rotunda, was, therefore, that no student who was dissecting would be allowed to attend the hospital. But further, in order to make it as easy as possible for students and nurses thoroughly to disinfect their hands before examining any case of labour, vessels containing a 1 in 40 solution of carbolic acid were placed over every wash-hand basin, and I personally instructed every student who entered the hospital as to the way I thought it necessary to wash the hands. The notice that I now show you was also put up in every ward:—

“NOTICE.—Rule—No one shall make a vaginal examination without having first washed the hands in carbolic acid solution, using a nail brush carefully. By order, Arthur V. Macan, Master of the Hospital. November, 1882. The Master feels confident that the Pupils of the Hospital will assist him in seeing that this rule is strictly carried out.”\*

Moreover, to lessen the necessity of making vaginal examinations, and thereby also the risk of conveying septic infection, each student is taught to palpate the abdomen, and soon recognises, without difficulty except in exceptional cases, not only what the presentation is, but also the exact position of the child's head, back, and limbs. Also every student or nurse who examines a woman *per vaginam* has to write his or her name down on her card, so that if she should afterwards prove to be infected the origin of the infection may be traced. This can readily be done, as only four students are allowed to examine any given case. It has, I think, another very important good result—giving each student a sense of personal responsibility for the cases which he examines. If I or my assistants make a vaginal examination, we also enter our names on the patient's card, in order that we may share the responsibility should any symptoms of septic poisoning afterwards show themselves. As soon as the child is born, the woman is made to lie slightly on the back to prevent the entrance of air into the vagina or uterus, and there is an absolute rule against touching the woman's genitals with the fingers after delivery, except in cases of post partum hæmorrhage, ruptured perinæum, or retained placenta, and then only by the Assistant Master. Before stitching up a ruptured perinæum, the vagina is injected with carbolic acid solution (1 in 40), and, should it be found necessary to introduce the hand, the

\* After the hands have been thoroughly washed in carbolic acid solution, they are now dipped for half a minute in the corrosive sublimate solution, 1 in 1,000.

uterus is always washed out with a similar solution.\* In like manner the vagina is irrigated and the external genitals are carefully washed before every operation, and the uterus is syringed out afterwards, and recently a pessary containing 3 iss. of iodoform has then been passed to the fundus and left there.

To prevent the possibility of infection being carried by a vaginal or uterine tube, they are all made of glass, and a separate vaginal tube, such as I now exhibit, is provided for every bed in the hospital. These, when in use, are kept in carbolic acid solution, and are boiled in the same solution before being again used for another patient. To guard against the injection of air into the vagina or uterus, which, besides being in itself very dangerous, is a fertile source of foetid lochia and consequent auto-infection, the old india-rubber syphon syringes have been entirely replaced by irrigators, which act by gravity; and in order to render the air, if it should enter the vagina, as innocuous as possible, carbolic acid solution is constantly evaporated in the wards day and night. This latter precaution I do not, however, look on as very essential, and I intend very shortly to try if we cannot get as good results without it. The old gum-elastic catheters have also been banished and their places filled by silver instruments, which, both before and after being used, are placed for a considerable time in the hot evaporating carbolic solution.

Now, if every person's fingers who examines a woman during labour, and every instrument that touches her, is quite free from septic poison, we must look on such a person as having so far escaped hetero-infection. Hence, if the prophylactic precautions adopted during labour are sufficient, there can be no necessity for any prophylactic antiseptic injections, whether vaginal or uterine, in the puerperal state, and, as a fact, I never allow them to be used either in hospital or private practice. Indeed I do not even consider it necessary to use an antiseptic solution for washing the external genitals, which is done twice daily with plain warm water, a piece of oakum taking the place of a sponge, a substitution the credit of which belongs to Dr. Atthill. Since, however, it is a well-ascertained fact that even healthy lochia, if brought in contact with the genitals of a recently-delivered woman, may produce fever, the nurses are taught to avoid, as far as possible, any contact with the genitals of puerperal women.

\* For some months past a solution of corrosive sublimate, 1 in 2,000, has been substituted for the carbolic acid, with most satisfactory results.

Finally, in order to lessen the chance of infection through the bed-clothes, napkins were for the first time introduced into the hospital. Formerly a sheet was placed under the woman's buttocks, folded in such a way that the four loose corners were hanging over the edge of the bed. As soon as the woman, after being delivered on the couch, was put into her own bed, the uppermost corner of this sheet was placed between her legs to receive the lochial discharge. As soon as this was dirty, the second corner took its place, and so on. The washing, too, was so badly done that the stains left by the lochia on the four corners could often be clearly seen when the sheets came back from the wash. That such a condition of affairs must have been a frequent cause of foetid discharge and subsequent auto-infection is obvious. Since the introduction of napkins and a more strict supervision of the clothes returned from the wash, this source of danger has, I am happy to say, been eliminated.

Such are the precautions looked on as necessary to guard patients who come into the Rotunda from inoculation with septic matter, or so-called hetero-infection.

Before I pass on to consider the measures taken to prevent auto-infection, I would like once more to emphasise the clinical distinctions between auto- and hetero-infection. In the latter case the labour has been most probably quite normal—the patient a fine, healthy primipara. The symptoms come on suddenly, within about thirty-six hours of delivery, and at the onset the discharge is not foetid. In this case the poison has been inoculated into the blood in the same manner as the vaccine virus is in vaccination, and like it also has a very constant period of incubation. In cases of auto-infection, on the contrary, the woman is most frequently a multipara, the labour long, and perhaps complicated with a dead and putrid foetus, or with fibrous tumour or cancer of the uterus, or there has been post partum hæmorrhage from a badly-contracted uterus, followed by the formation of clots, or the retention of portions of the membranes or placenta. The uterus being badly contracted, and the abdominal walls very relaxed, air enters the vagina, and decomposition of the contents of the uterus is the result. If the foetid discharge thus occasioned finds a free escape—if the drainage is, in other words, perfect, no absorption takes place into the system, and we have the well-known clinical phenomenon of a foetid discharge without either a high pulse or fever. But if, as is more generally the case, the

escape of the fluid is in any way obstructed, it becomes more and more foetid from the delay, and, being absorbed into the system, causes fever—so-called autogenetic puerperal fever. This condition, called sapræmia, or putrid absorption, by Dr. Matthews Duncan, differs *in toto* from the hetero-genetic puerperal fever, or that due to inoculation with septic matter. For, while the former corresponds to fever due to absorption from a badly-drained wound, which disappears as soon as the foetid accumulation has been removed, the wound itself disinfected, and free drainage established, hetero-infection, on the other hand, more nearly resembles the effects of a snake-bite, subsequent death or recovery being determined by the amount and virulence of the poison primarily introduced through the wound into the system. Nor in this case can we hope for any benefit to result from the subsequent application of antiseptics to the wound, as the poison has already infected the whole system.

Since, then, auto-infection depends on the absorption of putrid matter from the interior of the uterus, there are two conditions essential before it can occur—first, a foetid discharge, and, second, retention of this discharge within the uterus. Now, in order that the discharge should become foetid, I think air must have been allowed to enter the uterus. Hence the prophylaxis of auto-infection consists, first of all, in preventing the entrance of air into the uterus; and, secondly, in removing quickly any foetid accumulation that may have taken place within the uterus, disinfecting its cavity, and providing for free drainage. One point of great importance, in order to prevent the entrance of air into the uterus during the third stage of labour, is to make the woman lie somewhat on her back as soon as the child is born. If this be not done, and the pressure of the hand is removed for a moment from the fundus, the uterus falls downwards, a vacuum is formed, into which, if the sides of the vulva from any cause, such as ruptured perinæum, are not in close apposition, air rushes. There can be no doubt, I think, that for a similar reason the position on the back, or nearly on the back, should be maintained as much as possible for some days after delivery, and the proper application of the binder, as preventing a negative pressure in the abdomen, insisted on. The great laxity of the abdominal walls in multiparæ and the tendency there is to imperfect contraction of the uterus will, I think, account in great measure for the increased liability to putrid absorption which has long been noticed in women who have had many children; while the excessive mortality in first cases is readily explained by the danger

of septic inoculation into the os during the long dilating stage, and into the ruptured perinæum during the third stage. Hence auto-infection is more common in pluriparæ, hetero-infection in first cases.

As a means of preventing an accumulation taking place within the uterus the position on the back is also of importance, as the intra-abdominal pressure is then greater than when the woman is on her side, and gravity acts more thoroughly. A distended bladder, which prevents the uterus contracting properly, should also be avoided—in fact, anything that is known to prevent uterine contraction should be removed. If the uterus be badly contracted ergot should be given, and should the discharge become foetid *hot* antiseptic vaginal injections are indicated, which not only remove the discharge, but cause the uterus to contract. If the discharge be foetid and the temperature not only becomes high, but remains so for twenty-four or thirty-six hours, then intra-uterine antiseptic injections should be made,\* and an iodoform pessary introduced. Also, in all cases where the child is dead, and there is the slightest smell, the uterus should be washed out with corrosive sublimate solution, and an iodoform pessary introduced. When there has been a foetid discharge, accompanied by a high temperature, but without any symptoms of inflammation being present, the patient is encouraged to get up on the sixth day, as usual. The erect position, by aiding gravity, and putting increased pressure on the fundus, causes the drainage to be more perfect, and the result is, as a rule, that the temperature quickly sinks to normal.

Here I would like to draw your attention to the suitability of iodoform as a means of rendering, and keeping, the interior of the uterus aseptic, and thus preventing the possibility of putrid absorption. It has been extensively used for some time past in the Rotunda for this purpose, with the most gratifying results. It is introduced into the uterus in the form of a pessary, the amount of the drug in each being 3i. or 3iss. This decomposes very slowly, and exerts its antiseptic action for three or four days, at the least. I have also noticed that it has a powerful effect in lessening the temperature, quite apart from its antiseptic action. Thus there is a case in the Rotunda at the present moment in which we induced premature labour. It took three days, however, to bring on efficient pains, and some time before delivery the pulse was 130 and the temperature 103·6°. As soon as the child was born the uterus was washed out with corrosive sublimate (1 in

\* The solution now used is corrosive sublimate, 1 in 2,000.



2,000) and 3iss. of iodoform introduced. The result was that the temperature on the following day had fallen to 96·4°, or over 7°. I have brought down some of the pessaries that we use, that the members of the Academy may see them.

As to the treatment of hetero-genetic infection I have very little to say, as I know of nothing that quickens the elimination of the poison from the system. If the continuous high temperature is beginning to show its effect on the nervous system the treatment should be antipyretic. For this purpose we give quinine in large single doses of from 10 to 20 grains, or the bath at 90° cooled down to 60°, both combined with large quantities of alcohol. I am happy to say, however, that I have only once been obliged to resort to the cold bath, and that was in a patient who was delivered before I took charge of the hospital. In future I shall not hesitate in these cases to try the antipyretic effect of a pessary of 3iss. of iodoform introduced into the uterus.

Let us now pass on to consider the results obtained by these measures during the past year.

The number of women confined in the hospital during the year was 1,090. The following is a list of the abnormal cases:—

Forceps	-	-	-	62, or 1 in 17·58—5·68 per cent.	
Version	-	-	-	5, „ 1 „ 218	—
Post partum hæmorrhage	25,	„	1 „ 43·6		—
Breech	-	-	-	29, — — —	2·66 per cent.
Adherent placenta	-	8,	„ 1 „ 37·5		—
Secondary hæmorrhage	-	1,	- - -		—
Placenta prævia	-	8,	„ 1 „ 136·25		—
Accidental hæmorrhage	16,	„	1 „ 68		—
Face	-	-	-	4, — — —	—
Face to P.	-	-	-	2 (?), — — —	—
Prolapse of funis	-	-	-	5, „ 1 „ 218	—
Convulsions	-	-	-	5, „ 1 „ 218	—
Abortions	-	-	-	16, „ 1 „ 68	—
Mania	-	-	-	2, — — —	—
Perforation	-	-	-	2, „ — „ —	—
Hydatids	-	-	-	1, — — —	—
Induction of premature labor,	1,	-	- - -		—
Twins	-	-	-	14, „ 1 „ 77·8	—
Scarlatina	-	-	-	1, — — —	—
Erysipelas	-	-	-	1, — — —	—

Of the 1,090 patients 6 died, giving a mortality of 0.55 per cent., or 1 patient in 181.6. The particulars of these 6 cases are as follows:—

CASE I.—J. B., aged forty, eleventh pregnancy; admitted Dec. 19th, 1882, having had convulsions for more than 30 hours previously. Comatose when admitted. Membranes were ruptured artificially, and after a time the head was perforated, and the child was born by the natural efforts two hours after. Woman died on 21st, having never regained consciousness. There was no *post mortem* examination.

CASE II.—M. J. W., aged twenty-seven, fourth pregnancy; admitted Dec. 24th, delivered Dec. 24th, 1882. Partial placenta prævia. The membranes were ruptured artificially, the hæmorrhage then ceased, and the child was born without assistance. Patient had been twice in hospital lately for hæmorrhage. She was transferred to the Auxiliary Hospital, and died there on Jan. 16th of pleuro-pneumonia. No *post mortem*.

CASE III.—E. F., aged thirty-five, ninth pregnancy; admitted Feb. 27th, delivered Feb. 28th. Fœtus premature at 6½ months, dead and putrid. *Uterus was not washed out*. Woman died on ninth day, with symptoms of pleuro-pneumonia.

*Post mortem by Dr. Duffey.*—"Double pleurisy, which must have been present before admission. No symptoms of septic infection."

I was quite prepared to look on this case as one of auto-infection from a dead and putrid fœtus, the uterus not having been washed out, but Dr. Duffey said there were no evidences of septicæmia.

CASE IV.—B. S., aged twenty-two, first pregnancy; admitted April 29th, 1883, delivered same day. Immediately after delivery a large tumour, the size of a fœtal head, was discovered attached to the side of the fundus. This was diagnosed to be a fibroid. Patient died very quickly on eleventh day, with symptoms of œdema pulmonum.

*Post mortem by Dr. Duffey.*—"Mitral stenosis; œdema pulmonum; fibroma uteri."

CASE V.—M. R., aged twenty-three, second pregnancy; admitted June 14th with accidental hæmorrhage; delivered same day, and died of post partum hæmorrhage.

*Post mortem.*—Uterus studded over with fibroid tumours of various sizes; liver enlarged, and amyloid.

This was the only case in which the perchloride of iron was injected during the year.

CASE VI.—S. A. S., aged thirty-four, first pregnancy ; sent up by Dr. M'Ewan, of the A. M. D., from the Curragh Camp, on account of a large abdominal tumour complicating pregnancy. Was delivered by turning, on account of partial placenta prævia, on August 20th. Went on well for a few days, but then showed symptoms of putrid absorption, and died on twenty-fourth day.

*Post mortem by Dr. Duffey.*—"Large sub-peritoneal fibroid, weighing  $6\frac{1}{2}$  lbs., which was gangrenous and adherent to the abdominal walls and intestines. Fundus uteri ulcerated through, and giving passage to fetid debris of tumour."

If this case were to come before me again, I would certainly recommend Porro's operation.

Now, in order thoroughly to appreciate these figures, I would wish it to be distinctly understood that these six deaths comprise the total mortality, *from all causes*, of these 1,090 women during the entire time they were under our care. Furthermore, I did not, during the year, transfer a single puerperal patient to any other hospital, and only one woman left in such a condition as to lead us to fear for the result, and I have since ascertained that she was alive six months afterwards. Hence, this mortality of 0.55 per cent., or 1 in 181.6 patients, represents not only the puerperal mortality, but also the total mortality of the puerperal state, which is a very different thing. When such competent authorities as Dr. Matthews Duncan and the late Dr. M'Clintock estimate the puerperal mortality of private practice as not less than 1 in 120 cases, we may, I think, safely conclude that a patient delivered in the Rotunda Hospital during the past year ran far less chance of dying than if she had been delivered in her own home by a private practitioner.

All the women who died were married women, and only two of them were primiparæ—which two facts, if we consider the much greater liability shown by unmarried women, and especially primiparæ, to infection, are in themselves sufficient to show that septic infection was very rare. All the deaths followed more or less complicated labours, and not a single woman died who had a natural labour. Of the 64 cases of forceps delivery, many of which were difficult extractions, and some undertaken before the full dilatation of the os, not one died.

These results I attribute entirely to the antiseptic precautions already described at length, but these precautions would have been useless had I not had the hearty coöperation of everyone connected

with the hospital; and I would take this opportunity of publicly thanking the students of the Rotunda for the willing and conscientious manner in which they have carried out whatever measures were thought necessary for the safety of the patients placed under their charge.

The forceps most commonly in use during the year was Barnes'. For though always a believer in the theoretical advantages of an axis-traction forceps, I found Tarnier's instrument so large that it filled the vagina, and prevented any control being exerted by the fingers during extraction. Recently, however, I have frequently used Simpson's modification of Tarnier's forceps, and have found them most manageable and efficient. They are, however, a little too short, and the angle at which the traction bar is fastened on to the traction rods is very faulty. I therefore got over a pair of Hegar's modification of Simpson's instrument, which I now exhibit to the Academy. They are longer than Simpson's, and the mechanism of the locking of the traction rods into the handle is improved. From a recent paper which Prof. Simpson has kindly sent me, I see that he has himself already introduced these improvements, so that his latest model is the same in all essential particulars as Hegar's. The position of the screw in the latter instrument on the right handle instead of the left is, however, a further improvement, as it cannot then fall down between the handles in the act of locking. Prof. Simpson recommends us to introduce the left or lower blade with the left hand, and quotes Pajot in support of this method. But Pajot's observations refer to the position on the back, which is the usual one on the Continent, under which condition the left blade must be introduced with the left hand, and *vice versâ*. But they do not in the least apply to the ordinary obstetric position in this country—viz., on the left side, or else the lower blade of Barnes' forceps should also be introduced with the left hand, a plan which no one, as far as I am aware, has as yet recommended.

It would take too long to enter at present into a discussion on the merits of the axis-traction forceps, but I am myself convinced that they are a much more powerful instrument than the ordinary double-curved forceps, and will soon entirely supersede them, except in cases where delivery has to be undertaken while the occiput, in third or fourth vertex presentations, or the chin in face presentations, has not as yet rotated forwards.

Post partum hæmorrhage has been very rare, the ordinary time

allowed between the birth of the child and the expression of the placenta being at least fifteen minutes. During this time the hand is not merely placed on the uterus, but gentle friction and kneading is made with the tips of the fingers over the whole fundus, which stimulate it to contract. Accurate statistics were not kept of the number of cases in which the perinæum was ruptured, but whenever it extends nearly or quite as far as the sphincter, sutures are introduced, and, as a rule, with very good results; nor, as a rule, can any rise of temperature be traced to this accident or its remedy.

Version was performed in five cases—one case, in which the labour was complicated with large fibrous tumour, died, and has been already given at length.

There were eight cases of placenta prævia, in none of which was the presentation complete. The treatment consisted in bipolar turning when the hæmorrhage called for early interference, and merely rupture of the membranes where the pains were good, the head presenting, and the hæmorrhage not excessive. Two patients died, and their cases will be found recorded among the fatal cases.

Five women had puerperal convulsions, one of them being brought into hospital in a state of profound coma. She died, having been previously delivered by craniotomy. Our treatment of puerperal convulsions consists in the immediate use of chloroform, followed either by large doses of morphia subcutaneously, or by enemata of 30 grains of hydrate of chloral, the latter repeated after each convulsion. The hot steam bath and pilocarpine subcutaneously ( $\frac{1}{3}$  grain, repeated if necessary) are also used in cases where the urine is albuminous and œdema is present.

Sixteen women were admitted for abortion, in none of whom was plugging of the vagina practised. The treatment is expectant as long as possible. If the hæmorrhage be excessive before the cervix is large enough to allow of the removal of the ovum, the cervix is either plugged with a tupelo tent, or dilated with Hegar's dilator, and the ovum then removed. If there are symptoms of any portion being retained, and causing either putrid absorption or hæmorrhage, the uterus is first washed out with a solution of corrosive sublimate, 1 in 2,000, and the interior of the uterus then curetted, after which the cavity is again thoroughly disinfected with corrosive sublimate, and, in septic cases, an iodoform pessary (3i.—3iss.) introduced.

There were only two cases of perforation during the year. One has been already mentioned when speaking of convulsions. In the second case, N. P., Feb. 13th, 1883, the woman was in hard labour for four days, and the forceps were twice applied vigorously, for half an hour each time. This woman never had a serious symptom after delivery, though unable to use the lower limbs for some time in consequence of the pressure exerted on the nerves and soft parts by the head. She left hospital quite well in less than three weeks.\*

The best instrument for delivering the head after perforation is, I think, Braun's cranioclast, which I now exhibit to the Academy, and which is not as well known nor as much used in this country as it deserves to be. It is very like Dr. Barnes' craniotomy forceps. It is essentially a traction, not a crushing, instrument. One blade is passed through the hole made by the perforator, the other is passed outside the cranium. The instrument is then locked and screwed up, and affords a most powerful means of applying traction. The great advantage it possesses over the cephalotribe is that it allows the head to accommodate itself to the pelvis, no matter how irregular this may be, whereas the cephalotribe, while diminishing one diameter of the head, increases the opposite one. In a case of perforation that occurred this year I used Breiskey's cephalotribe, which I now exhibit, and which is strongly recommended by Schroeder, and found it very efficient and easy to apply.

Since September last the temperature of every case has been taken regularly twice daily, and I have not been able to recognise any constant rise of temperature, even to the extent of one degree, accompanying the first secretion of the milk. The results of these observations would rather tend to prove that the temperature curve of the puerperal state, in a typical normal case, does not differ in the slightest degree from that in the non-puerperal state; and I am inclined to believe that any temperature above 100° F., except immediately after delivery, indicates that something abnormal is taking place, though it may not always be possible to say what the exact cause of the rise may be.

The statistics of the external maternity for the year, which were furnished by the clinical clerk, Reginald L. Mosley, M.B., were as follow:—

\* Since this paper was read this patient has again been delivered by perforation, and was up and walking about on the eighth day.

Total number of cases	-	-	-	-	1,335
Forceps ( $\frac{1}{8}$ )	-	-	-	-	29
Face	-	-	-	-	8
Abortions	-	-	-	-	100
Lower extremity and breech	-	-	-	-	42
Upper extremity and hand	-	-	-	-	6
Accidental hæmorrhage	-	-	-	-	1
Placenta prævia	-	-	-	-	7
Adherent placenta	-	-	-	-	7
Twins	-	-	-	-	19
Prolapse of funis	-	-	-	-	5
Convulsions	-	-	-	-	2
Thrombus	-	-	-	-	1
Anencephalous fœtus	-	-	-	-	2
Post partum hæmorrhage	-	-	-	-	17
Mortality	{ Septicæmia - - 3 } { Placenta prævia, &c. - 1 }				4

Before closing this Report, which has already far exceeded the usual limits of papers read before the Academy, I would venture to call your attention to the great importance of a careful palpation of the uterus through the abdominal walls, in every case, both during labour and in the puerperal state. The condition of the bladder is at once known, and if the waters have not already escaped we can tell with accuracy the exact position of the child, and in cases of breech or transverse presentation we can bring down the head by external manipulation. During the puerperal state palpation of the abdomen will at once inform us of the condition of the uterus as to contraction or relaxation, of fulness or emptiness of the bladder, and of the necessity of passing a catheter.

There are many other subjects—such as the danger or innocuity of retention of the membranes or portions of the placenta; the prophylactic antiseptic treatment of ophthalmia neonatorum, lately introduced by Professor Credé; the treatment of infantile asphyxia by Professor Schultze's method; the use of Tarnier's incubator, &c., &c.—which I have been unable to include in this Report, but which I hope to have the opportunity of bringing under the notice of the Academy on some future occasion.

ART. XXV.—*On the Treatment of Scrofulous Cervical Glands by Excision.*\* By JOHN FAGAN, F.R.C.S.I.; Surgeon to the Belfast Royal Hospital and the Belfast Hospital for Sick Children.

EXCISION of scrofulous cervical glands has been a recognised mode of treatment for many years among Continental surgeons, notably by the French school. It has been rather sparingly adopted in this country, and other treatment of a less radical nature is usually practised.

I am glad to see, however, that of late there is a growing disposition on the part of physicians to approve of, and surgeons to carry out, this most excellent method in suitable cases.

My medical colleagues, both at the Royal Hospital and the Children's Hospital, have from time to time brought under my notice, with a view to operation, certain forms of obstinate gland swellings that resisted all the recognised modes of treatment. I have up to the present time operated in about twenty-five cases, and the result in each case has been most satisfactory.

I have on more than one occasion, at this and another Society, shown the patients operated on and glands removed, and to-night I have at random secured two children on whom I operated; one sixteen months, the other a year, ago. In each it is with difficulty that you can detect the seat of the operation wound, its only evidence being an indistinct white streak.

As illustrating my mode of operating, as well as the usual progress and termination of such cases, I will briefly record the features of interest in three or four of them; but before doing so I may be allowed to draw your attention in a passing way to the anatomical arrangement of the cervical lymphatics.

Of these there are two sets—a superficial and a deep one. The first lies along the course of the external jugular vein, beneath the platysma, receiving lymphatics from the skin of the neck, part of the face and scalp, and from the auricle of the ear. The deep chain of glands lying in close contact with the large vessels is divided into a lower and an upper set. The first is situated in the supra-clavicular fossa, and communicates with the axillary and mediastinal glands as well as with those of the upper set. The latter is placed opposite the division of the common carotid, and receives lymphatics from the tonsils, nasal fossæ, lower part of pharynx, tongue, palate, and larynx, from the deep muscles of the head and neck, and from within the cranium. The sub-

\* Read before the Ulster Medical Society, Session 1883-84.



maxillary set, placed under the cervical fascia, run along the base of the jaw; they communicate with the superficial and deep cervical sets, and receive lymphatics from the mouth and lower lip. The parotid set—placed some in the substance, others on the surface, of the gland—receive lymphatics from the orbit, nasal fossæ and upper jaw, the upper part of the pharynx, and from the frontal and parietal regions of the scalp.

This brief survey of the principal lymphatic chains in the neck may be of service when considering the local causation of morbid changes in them, as also in carrying out any operative measures for their treatment.

CASE I.—My first case was a very healthy-looking little girl, aged eleven years, whose family history was exceptionally good. She had an oval swelling the size of a pigeon's egg, situated on the left side of the neck, corresponding to a point a little above the centre and towards the inner side of the sterno-mastoid. It existed for more than a year, and resisted the ordinary modes of treatment. I decided on removing the gland, and proceeded as follows:—I made an incision immediately over the centre of the tumour corresponding with its long axis, and the fibres of the sterno-mastoid. Holding it between my thumb and forefinger it conveyed the feeling of being very superficial, but on dividing the upper layers of fascia instead of the gland, the fibres of the sterno-mastoid appeared in the wound. It then occurred to me that I had to deal with one of the upper set of the deep cervical chain. So I carefully separated the fibres of the muscle, divided the underlying layer of the deep cervical fascia freely, and exposed the gland placed in close contact with the carotid sheath. I now seized the mass with a small double-tumour hook, and, using gentle traction, drew it towards the surface, while with careful strokes of the scalpel I liberated it from its bed of cellular tissue, thus removing it with comparative ease and very little hæmorrhage. Two smaller glands, placed at either extremity of the large one, I removed in the same cautious manner, after twisting a few small arteries and washing out the wound with a solution of chloride of zinc. I bestowed great care in bringing its edges into accurate apposition by numerous points of very fine silver wire suture.

A bit of protective, a pad of antiseptic gauze, and a bandage, constituted the dressing. On the third day I looked at the wound, and found it healed by direct union. There was neither swelling nor redness nor pain. I removed a few of the sutures and dressed the wound as before. On the fifth day I removed the remaining sutures and put a pad of cotton-wool over the part. On the day following I showed the child to the members of this Society, when the only evidence of the operation was a scarcely perceptible scar, which I expect through time has become still less perceptible.

The large and one of the small glands on section presented in their centres caseous matter, and one or two small circumscribed abscesses.

CASE II.—A. M., aged twenty years, was affected for about a year with a chronic hip arthritis, the result of an injury. His health had been considerably impaired, and for three months prior to operation he suffered from an enlarged gland, situated below the angle of the lower jaw. This commenced as a small, hard lump, which soon became painful, and increased till it attained the size of a small hen-egg. It was treated in the usual way, with iodine application, and cod-liver oil, &c., internally. When I saw him the mass was mobile, hard, and painless. In operating on this case I made the line of my incision in the long axis of the tumour and parallel with the ramus of the lower jaw. The gland was not so easily turned out of its cellular bed as its mobility led me to expect. The surrounding tissue was somewhat closely matted to it, and there was considerable oozing of blood into the cavity that remained; this was checked by the strong chloride of zinc solution. The wound was sutured and dressed as in the former case. On the second day after the operation I removed the dressings, as he had a rigor and high temperature the previous night. The wound was firmly and evenly united, but there was diffuse inflammation extending from it over the side of the face and neck. I removed most of the sutures, opened up with a probe a small part of the wound at its most dependent angle, passed in a small drainage tube, painted all the surrounding parts with the strong iodine liniment, and put him on large doses of quinine and iron. From that time he improved; there was no discharge, except a little serous oozing from the tube. The wound remained firmly united, and a little inflammatory thickening that was about it at first, soon disappeared.

An interesting feature in connexion with this case is that, notwithstanding the very smart inflammatory action, the new plaster material never gave way, nor did any matter form in the cavity from which the gland was removed.

On section the centre or medullary portion was seen converted into a large abscess cavity, and the cortical portion was much thickened from inflammatory infiltration.

CASE III.—J. L., aged nine years, a delicate-looking, badly-nourished lad, the subject of purpura, had an enlarged gland, situated a little below and in front of the angle of the jaw. It existed there for two years, occasionally shrinking, but it never totally disappeared.

I removed it in the usual manner, the wound healed by the first intention, the scar was scarcely perceptible.

On section the centre of the gland presented the characteristic patches of caseous matter, with a few pus loculi.

Among my other cases, while there are few points of further interest, the treatment and its result, as well as the pathological condition of the glands, were somewhat similar to what I have already described. In the case of a young lad, where there were two enlarged glands at the angle of the jaw, one of them was partially necrosed and exposed at the bottom of a ragged ulcer, the other joining it was deeply placed. Owing to the matted condition of the surrounding tissue, I had considerable difficulty in removing them, and in doing so wounded the facial artery. I immediately clamped the vessel on either side of the wound with a Pean's forceps, and after dividing it between secured both ends with catgut ligatures. The case did well.

In the case of a reformatory lad, who was an exceedingly unhealthy subject and a most incorrigible patient, the removal of the glands was followed by gaping of the wound and rather profuse suppuration. After a somewhat prolonged convalescence the part healed, leaving a very perceptible scar, but not as unsightly as that which follows Nature's process of suppuration and ulceration.

I show you two strings of glands that I removed a short time ago from a lad's neck (four on each side), two of them as large as small hen-eggs. There was some suppuration, but the case has done well.

This is a case I operated on five days ago; the union is perfect. I keep a very small drainage tube in the dependent angle to drain the cavity, from which I removed one very large and three small glands. [The patient was shown to the members.]

There are a few points connected with the operation and its after-treatment to which I think it worth while to direct your attention:—

1. The incision over the gland should not be made too free; but all the underlying structures should be freely divided from angle to angle of the skin wound. When the gland is well exposed it should be seized with a small tumour hook, and steadily but gently drawn through the wound. In the majority of the cases that are suitable for this mode of treatment this is a simple process, requiring only the occasional use of the knife, a stout director or the handle of the scalpel being sufficient. When all the affected glands are removed, any ragged shreds of cellular tissue that remain should be clipped away with scissors. All bleeding points should be secured, and the wound well swabbed out with a strong solution of chloride of zinc.

2. Regarding drainage of the wound, I have had good results with and without it; still, on the whole, I think it better and safer to drain either with horsehair or very fine tubes. This is

especially requisite in cases where the wound is large, and where there has been oozing of blood and difficulty of enucleating the gland.

3. As regards suturing the wound, the finest silver wire should be used. It should not be passed too deeply through the lips of the wound, which should be most accurately adjusted, and the sutures should be removed not later than the third day, and sooner if the slightest inflammatory blush should appear at their points of exit from the skin. The marks that follow the suppurating tracks of the sutures are far more disfiguring than the scar from the incision.

4. As regards maintaining the parts at rest while union is taking place, this is most essential for obvious reasons. The most effectual way of securing this is, I find, by means of a night-cap with a pair of strings attached to either side; these are brought down and fastened in front to a thoracic binder, and drawn sufficiently tight to bring the head well forward on the chest. Such a form of restraint is especially necessary in the case of children, who will only remain at rest on compulsion.

5. Should inflammation attack the wound the tension should be at once relieved by removing some, if not all, of the sutures; and if there has been no drainage, a probe should be passed into its cavity at the most dependent angle, and a small tube inserted.

I have now explained to you a certain well-defined mode of treatment, as carried out by me in a considerable number of cases, and I have shown you the results of such treatment. To some it may appear very satisfactory, while to others it may seem an unnecessarily heroic method, subjecting, as it does, the patient to a certain amount of deformity no matter how successfully carried out, and not altogether devoid of risk to the life of the patient.

While deferring a reply on this head, I may be allowed to examine cursorily some interesting features in this broad subject that just now occur to me, as in some way bearing on the mode of treatment advocated in this paper.

In the whole range of medicine and surgery I question if there is a subject concerning which there is more diversity of opinion, regarding both its nature and treatment, than there is about what we term scrofula or struma. The various and conflicting views held at different periods by equally eminent inquirers concerning the nature of this condition; the innumerable nostrums displacing one another in rapid succession—their virtue often consisting in their novelty—is a striking proof of the unstable nature of the basis on which the pathology and therapeutics of this disease rest.

From a purely surgical standpoint I would define the term struma or scrofula as an inflammatory process attacking the tissues of a lowly vitalised organism, and manifesting itself by a slow and silent destructive action.

The exciting causes that are likely to give rise to this condition in the lymphatic glands are many and obscure :—Traumatism, direct or indirect, through the lymphatics ; all sources of irritation, internal as well as external—for instance, bad teeth, sore throat, bronchitis, enteritis, skin affections, exposure to cold, &c. That the glands of the neck are more frequently than any other the subject of this condition will appear evident from the fact that there is a very intimate connexion between them and the large amount of lymphoid tissue in the mouth and pharynx, which in most delicate subjects is highly susceptible to the slightest variation in temperature or the contact of septic matter.

While we know that in almost all cases there are two factors—viz., the hereditary and acquired—in producing the strumous condition, you may ask which plays the more important part ?

Mr. Savory, in his remarks on the subject of scrofula, answers this question more fully and satisfactorily than any other author. He says the causes of disease are conveniently and naturally divided into predisposing and exciting, and the development of disease depends on the extent to which these causes act in combination. For example, by way of illustration merely, let it be assumed that any given disease cannot be produced unless the sum of the causes reach a certain figure, say 100. Now, so long as this number can be attained by the causes conjointly, it matters not what their relative share in it may be. The predisposing cause may equal 70, the exciting cause 30, or *vice versa*. From this it follows, as is well known, that when the predisposition to disease is strongly marked, the most trivial exciting cause may suffice to develop it—it may be 99 to 1. On the other hand, if the exciting cause or causes be sufficiently intense and prolonged, the disease may be produced where there is only the faintest predisposition.

Let us illustrate this by an example :—Take a child of parents in the better class of life, surrounded by all the necessaries for its wellbeing, and although there may be a strong hereditary tendency, the exciting causes being almost nil, the sum total is not sufficient to develop the scrofulous condition ; but suppose that child by some misfortune is reduced to the state that we find the wretched children of the poor in our large cities, the victim of bad air, bad

food, uncleanness, insufficient clothing, and particularly in this rough, changeable climate of ours, you will soon see the disease manifesting itself in its most severe form.

The hereditary or predisposing causes among the children of the poor may be almost nil, but the exciting are so many and so forcible that of themselves they often give rise to the scrofulous condition.

The general treatment of this affection in its earliest manifestation, more especially when due to hereditary causes, falls within the province of the physician. But there are some conditions of gland enlargement in which timely surgical interference would be of the greatest possible good. In a healthy subject when a gland enlarges and grows painful, if the tension be not soon relieved the probabilities are that it will go on to suppuration. The timely relief of tension is a principle I strongly adhere to in dealing with all forms of inflammation, especially when the affected tissues are bound down by a dense, resisting medium. If we consider for a moment the anatomical characters of a lymphatic gland, we shall at once see the necessity there is for attention to this point. When its structure becomes inflamed multiple punctures of the dense, fibrous capsule should be made to relieve the congested gland substance and allow the inflammatory products free exit into the surrounding cellular tissue. It can be practised by means of a fine tenotome passed subcutaneously at some distance from the gland.

I find time will not permit me to discuss the merits of many other useful surgical methods of treating strumous gland disease; and while admitting the thermo-cautery, Volkmann's spoon, and appropriate caustics to be good in certain forms of the disease, I hold strongly to the opinion that when disease is limited within a well-defined area, and the tissue involved is steadily, however slowly, deteriorating, that its total extirpation is the only rational and effectual mode of dealing with it, and this principle is, I maintain, equally applicable whether the structure implicated be gland, bone, or joint, provided anatomical considerations allow of such operative interference.

Let it not be understood that, while making this somewhat strong statement, I am an advocate for the wholesale use of the knife for treating diseased structures. Such a practice I believe to be as mischievous as that where its use is never recommended. But the judicious physician or surgeon who, when he sees diseased structure persistently deteriorating, and not alone so, but endangering the vitality of that in its neighbourhood, recommends its

timely removal, is a far greater benefactor to his patients than he who temporises in the hope that Nature, with the aid of his nostrums, will bring about a cure.

Anyone who has seen my cases must, I think, admit that the method of treatment I have adopted is the best for those chronic cases that resist all other recognised remedies. Its superiority over the temporising plan will appear strikingly manifest if we compare a patient restored to health after the rapid riddance of the diseased mass, and showing scarcely any mark, with another graphically described by Dr. Clifford Allbutt as "dragging on a chequered and tedious course, drifting, perhaps, from doctor to doctor, consuming volumes of cod-liver oil and medicines, breaking up life and prospects by prolonged exile from home, pestered by filthy discharges, or poisoned by decay which is not discharged, disfigured by sinuses, sluggish streaks and lumps of fibrous increase, seamy scars, and indurated gland-remnants. Such patients, thanks to the marvellous pertinacity of life, do generally fight their way into complete or partial recovery, but at the price of permanent disfigurement; at the price of tell-tale corrugations in the neck; at the price, perhaps, of a deferred pulmonary phthisis, set up by absorption of the partially voided caseous products."

You will admit that this is not an overdrawn picture, and you will agree with me that scrofula, as it now is, is an *opprobrium medicinarum*.

ART. XXVI.—*Two Cases of Intestinal Obstruction.*\* By KENDAL FRANKS, M.D., Univ. Dub.; Ex-Sch. Trin. Coll. Dub.; Fellow of the Royal College of Surgeons, Ireland; Fellow of the Academy of Medicine of Ireland; Surgeon to the Adelaide Hospital; Surgeon to the Throat and Ear Hospital.

- I.—INTUSSUSCEPTION FIVE INCHES IN LENGTH AT ILEO-CÆCAL VALVE—IRREDUCIBLE BY ENEMATA—ABDOMINAL SECTION—REDUCTION—DEATH FROM EXHAUSTION.
- II.—TWIST OF THE INTESTINE AT SIGMOID FLEXURE OF THE COLON—REDUCTION BY INTERNAL MANIPULATION THROUGH RECTUM—RECOVERY.

In the following paper I desire to bring under the notice of the Academy two cases of intestinal obstruction, which, though differing as to the pathological condition to which the obstruction was due,

\* Presented to the Medical Section of the Academy of Medicine in Ireland, Friday, May 16, 1884.

and differing as to the ultimate result, still present several features in common, and occurring as they did within a short time of each other in the wards of the Adelaide Hospital, I thought it would be more interesting to lay them both before the Medical Section at the same time :—

CASE I.—The first case was that of a Polish Jew, aged forty-seven, by occupation a glazier, who was admitted to the Adelaide Hospital under the care of my colleague, Dr. James Little, on the 28th February last. He was a thin, sallow man, of intemperate habits, and with an anxious expression of face. The following history was, with some difficulty, elicited. He had been eighteen years in this country, but had never been strong. He usually complained of a cough and weak chest, and when admitted was suffering from chronic bronchitis. He dates the beginning of his symptoms from six weeks ago. Up to this period the bowels were habitually constipated; he usually had an evacuation every third day. The first thing he complained of was a “lump” in his abdomen, which moved about as he changed his position, usually being uppermost. About the same time he began to experience pain in the epigastrium, which was increased after taking food. He had frequent vomiting, and very bitter eructations which “set his teeth on edge.” He was also much troubled with cramps both in the abdomen and legs. The bowels now never moved without strong medicine, but blood was never noticed in the stools. During these six weeks he took quantities of pills and purgative draughts, and he stated that he had had a good motion four days, and a watery discharge one day, before admission; but the stools seem to have been small in calibre.

His appetite had become very bad, and he had endeavoured to improve it by drinking large quantities of whisky and porter.

On admission he complained of headache, which, however, was not constant. The heart sounds were normal, the pulse regular, and hard. The lungs presented abundant râles all over them, and there was much cough. The tongue was covered with a dark brown fur. He suffered greatly from pain all over the abdomen; it was not constant, but came on in paroxysms every few minutes. These paroxysms came on immediately after drinking anything. They were accompanied by intense spasm of all the abdominal muscles, which stood out strongly in relief and relaxed only partially as the pain subsided. Waves of visible peristalsis were observed to travel towards the left groin, and were accompanied by loud gurgling. The pain, which caused him to cry out, subsided with the gurgling. The whole abdomen was resonant on percussion, but owing to the rigidity of the abdominal muscles, no tumour could be felt anywhere, nor was there other evidence as to the seat of obstruction. There was no tenderness on pressure except slightly over the right rectus,



and a little more marked over the right loin. The area of hepatic dulness was diminished; the superficial veins in the right hypochondrium were enlarged. He always lay on his back. There was no vomiting, and no hiccough.

The evening after he was admitted a pint and a-half of "oil emulsion" was injected into the bowel through a long tube, which was passed up without meeting with any obstruction for a distance of 18 inches. The fluid was retained for 10 minutes, and when returned, it brought away with it some pale soft fæces, but no flatus passed.

The next day a large enema of soap and water was administered, but was ineffectual in bringing anything away. A castor oil and turpentine enema, given on March 1st, proved equally abortive.

The following day Dr. Little, who considered the case to be one of intussusception, asked me to see him with a view to operation, and on the morning of the 3rd March a consultation of the whole staff was held accordingly. It was then decided that, prior to resorting to operation by abdominal section, an attempt should be made to introduce the hand into the rectum, and if possible to discover by that means the nature and the seat of the obstruction. The patient was accordingly at once placed under chloroform, and I made every attempt to introduce the hand but ineffectually, owing to the smallness of the osseous outlet. At 1 p.m. accordingly I performed abdominal section. Owing to the bronchitis, ether could not be given, as every attempt brought on coughing. We had therefore to fall back upon chloroform—the administration of which, however, gave us much anxiety. When it was attempted to get the patient fully under its influence, so as to relax the muscles, the pulse became alarmingly weak, and three times during the operation hypodermic injections of ether had to be administered. The result was that I had to operate in presence of an extremely rigid condition of the abdominal wall. The incision was made in the middle line from below the umbilicus to two inches above the pubes, and this had subsequently to be enlarged by extending it upwards round the umbilicus. When the peritoneum was opened a coil of small intestine protruded, deeply congested and distended with gas, but without any signs of peritonitis being present. Being quite in the dark as to the exact seat of obstruction, I resorted to the plan suggested by Dr. Frank Rand<sup>a</sup> of determining the upper and lower end of the piece of protruding intestine. As the long axis of this lay in the vertical line of the body I drew it gently forwards, and passing my hand backwards on the left side of the mesentery found that it was conducted to the right side of the spine. The intestine was accordingly inverted, and thus I was at once able to judge of the proper direction in which to follow the gut. Passing successive coils through my hands I soon came upon a hard lump in the right iliac fossa. This

<sup>a</sup> *Lancet*, Dec. 22, 1883.

proved to be an intussusception, five inches in length at the ileo-cæcal valve. It was very hard, and I found great difficulty in undoing the invagination. Simple traction had no effect, and I only succeeded by gently kneading the lower end of the intussuscepted gut, employing a kind of circular pressure with the left hand, while with the right I made traction upon the small intestine at the upper end. At last the uncoiling process was started and the rest of the volvulus readily yielded. The vermiform appendix was the last to appear. During this procedure any intestine which protruded was carefully protected by towels wrung out in hot carbolic lotion.

All were now carefully returned, the cæcum being replaced in its normal position and the wound was closed. The greatest difficulty was experienced in bringing together the edges of the abdominal wound, owing to the extreme rigidity of all the parts, indeed this was the most tedious part of the operation. This was finally accomplished by means of deep silk sutures involving the integuments and peritoneum, the ends being secured after the fashion of button sutures. The superficial wound was drawn together with interrupted catgut sutures, and the whole was enveloped in carbolised gauze dressings, and the patient was then put to bed. During the rest of the day he suffered from the effects of the chloroform, and as he was very weak, small quantities of beeftea and brandy were administered at intervals, and he was given ice to suck. He did not however rally much, though he suffered but little subsequently. He was very quiet, there was no abdominal tenderness or distension, and he had no sickness after the first few hours, but the shock seemed to have been too great for a man broken down in constitution, and after two days and a-half he quietly died. During this period there was no faecal motion, but he passed large quantities of wind, which he had not done during his stay in hospital previous to operation. An autopsy could not be obtained.

The result, though unfortunate, could scarcely be said to be unexpected. The previous habits of the man and his exhausted condition afforded little hope of a successful issue; still, if the operation had not been performed, it was evident that he must sink rapidly, and there was little doubt that he should be given the chance which surgical interference might afford. The condition found when the abdomen was opened showed sufficiently that no means short of direct exposure of the parts could have undone the volvulus.

The case presents several features of interest, and first on the list stands the question of diagnosis. There was undoubted obstruction of the bowels, though there was an indistinct history of the bowels having been well moved previous to admission. This

obstruction was accompanied by paroxysms of pain, recurring at short intervals, with rigidity of the abdominal muscles, visible peristalsis, colicky pain of an intense kind, said by the patient to be like a knife cutting him in two, and with gurgling noises in the abdomen. No wind was passed, and only a little fæces on one occasion came away with the enema. There was no hiccough and no vomiting. But the chief points on which a diagnosis of *intussusception* is generally based were absent—*i.e.*, the passage of blood-stained mucus, and the presence of a sausage-shaped tumour in the abdomen; this latter could not be felt owing to the rigid condition of the abdomen. Thus the diagnosis could not but be one of great difficulty; and it is due to Dr. James Little to state that when he first wrote to me, asking me to see the case, he expressed a decided opinion that it was one of intussusception.

The next question suggested by this case is the propriety of adopting operative procedures. Previous to the publication of Mr. Jonathan Hutchinson's paper in the "*Medico-Chirurgical Transactions*" for 1874, in which he recorded the first successful case of operation of this kind in England, many serious objections were urged against making such an attempt, and chief amongst these were the statements that the intestines became so damaged by inflammation and strangulation, and so fixed by the mutual adhesion of its different layers, that it could not be safely drawn out. Now, in Guy's Hospital Reports for 1869 (Vol. XIV., p. 272), Dr. Hilton Fagge described the course of an intussusception as divided into two stages. The first stage was that in which one part of the intestine (generally the cæcum) slipped into the part below it, as into a loose sheath. At this period the intestine was but slightly if at all constricted, and this condition was characterised by the presence of a tumour, and by attacks of severe pain, recurring at intervals, between which the patient might appear quite well. The second stage was the stage of strangulation. When this supervened, it was indicated by constitutional disturbance, tenesmus, the passage of blood-stained mucus, and by the greater constancy of the pain.

In reading over the published cases of intussusception we cannot but be struck by the great variability of the symptoms and of the length of time during which they were observed. In many cases the so-called first stage was absent, and all the severe symptoms of strangulation presented themselves immediately after the occurrence of the intussusception. On the other hand the symptoms

may come on so gradually as to give rise to no suspicion as to the real state of affairs, until the volvulus has reached so far that the ileo-cæcal valve appears at the anus.

In the St. Bartholomew's Reports for 1876 (Vol. XII, p. 98), Mr. Howard Marsh, in relating a case of intussusception in an infant in which symptoms had existed for a month before the child was brought to hospital, observes, that "the case may serve the useful purpose of recalling the fact that intussusception, even though it involves a considerable length of intestine, does not necessarily produce any symptom beyond those that commonly attend slight catarrhal enteritis." In the London Pathological Society's Transactions (Vol. VII, p. 193), Mr. Hutchinson published a case, in which the patient lived four months from the commencement of the symptoms; and at the *post mortem*, six inches of the ileum, the entire cæcum, and first part of the ascending colon were found invaginated within the latter. The coats of the bowel were much thickened, but there were no adhesions. Between these two extremes every degree of severity in the symptoms and of their duration may be found. These varying conditions cannot, then, be regarded as stages of the same form of disease. They must be regarded, as Mr. Hutchinson\* first pointed out, as varieties of intussusception, "which may be roughly grouped, much as we do those of hernia, by reference to the tightness of the constriction. We have cases of intussusception," he says, "accompanied by *strangulation*, and we have others which are *irreducible* only. The former tend rapidly either to the death of the patient, or to his relief by gangrene of the constricted part; their duration is rarely more than a few days. Those, however, in which there is only an irreducible invagination, without either a stoppage of the contents of the tube or interruption in its blood supply, may run a prolonged course, and they have a greatly diminished chance of spontaneous cure by gangrene. It is in these latter that operative interference is most necessary, and has its fairest chance of success."

In this form, which we may call the "chronic form," it is of the greatest practical importance to observe that in nearly all the published cases the serous coats of the invaginated gut have not been found adherent, whether in cases in which the abdomen has been opened with a view to cure, or in cases examined in the *post mortem* room. This shows, no doubt, only that the reduction of the

\* Op. cit. P. 40.

invaginated gut is feasible, and that this may sometimes be accomplished by such other and less formidable measures, such as inflation.

In a great number of cases, however, and I believe they will prove to be the majority, it has been found that when manual reduction has been tried, either at the time of the operation or at the *post mortem* examination, it has been extremely difficult to accomplish, and has required more force than would *à priori* have been expected. Such cases are evidently beyond the reach of treatment by injection or by inflation—measures which are not altogether free from danger. Several cases are on record in which inflation has torn the gut; and one, at least, is published in the “*Medico-Chirurgical Transactions*,” in which the injected fluid was extravasated into the abdominal cavity. Moreover, as Mr. Hutchinson has pointed out, the chances of successful treatment, whether by the use of bougies or by the injection of air or water, are exceedingly small, excepting in quite recent cases, and if the surgeon does not succeed by them promptly, it is not likely that he will succeed at all.

In the case I have reported I do not think there could have been two opinions, when the invagination was examined, that any attempt at inflation would have been as futile as were the injections employed.

In cases of acute invagination, where urgent symptoms exist from the beginning, the question of operative interference rests on a different basis. It now depends altogether on the length of time the symptoms have existed and the degree of strangulation. If there is reason to believe that the intestine is in a condition of gangrene or bordering on it, operation of course should be declined, and we must trust then to the chance of expulsion of the gangrenous portion. But if there is reason to believe that the invaginated portion retains sufficient vitality to enable it to recover once the strangulation is removed, I believe it would be much wiser practice to have recourse to early abdominal section than to allow the invaginated gut to go on to gangrene in the hope of its being subsequently expelled—that is, of course, if the milder measure of inflation or of injection have failed to bring about its reduction. Dr. Hilton Fagge, in “*Guy’s Hospital Reports*” for 1869, thus writes:—“Now as we have already seen in ileo-cæcal intussusception ‘expulsion’ comparatively seldom occurs, and when it does occur it frequently only postpones the fatal termination, instead of entirely preventing it. The patient dies some months

afterwards from contraction of the cicatrix which had formed at the seat of the disease. This appears to me to afford a weighty additional argument in favour of the attempt to explore and pull out an ileo-cæcal intussusception, when the case is directly diagnosed at an early stage, and when inflation has failed to overcome the disease."

CASE II.—The second case of intestinal obstruction which I wish to record was due to a twist of the sigmoid flexure of the colon. The patient, a man aged thirty-six, by occupation a builder, was admitted to the Adelaide Hospital on the 2nd April last, under the care of Dr. James Little. Previous to the present illness he had always been strong and healthy. The bowels were usually regular, moving without medicine. On the 29th of March he was as well as usual, and was at his work all day. Next morning the bowels moved normally. After dinner that day (March 30th), while sitting before the fire, he began to feel pain in the lower part of the abdomen, which, however, was not very severe. He went to bed, but the pain increased and was accompanied by rumbling in the abdomen. He could not refer this rumbling, or the pain which was of a colicky character, "doubling him up," to any particular part of the abdomen, but this latter was "hard and lumpy." The pain kept him awake that night, and the next day, March 31st, he was seen by Dr. Bennett, of Sandymount, who gave him some pills, and applied poultices over the abdomen. The pills had no effect. Dr. Corley subsequently saw him with Dr. Bennett, and advised his going into hospital, in case an operation should become necessary. On the 31st of March he began to vomit, the ejected material being of a yellowish brown colour. He remained at home in bed till April 2nd. Since the onset of the symptoms on the 30th of March he passed nothing from the bowels. The pain and vomiting had continued, as did also the "rumbling." There was visible peristalsis. The abdomen became distended, at least he stated it had been more so before he came into hospital than subsequently. He had passed no blood.

On admission the patient was found to be very restless, and groaning. He complained of great thirst. The tongue was dry, with a yellowish white fur on the dorsum. On inspection the abdomen appeared to be but slightly distended, and presented a transverse sulcus just above the umbilicus. The abdominal wall was very rigid, but there was no special tenderness. The lower part of the abdomen and the flanks were dull on percussion, but the epigastric and umbilical regions were clear. No distinct tumour could be felt. Round the anus there was a ring of congested piles, which came on during the previous days, but from which he never formerly suffered. Dr. Corley stated that when he examined him on the 31st March, three days before, they had not then existed.

He complained of constant nausea and vomiting. The latter was of a light brown colour, distinctly faecal. On standing it deposited a black coal-dust sediment, which he explained by having taken charcoal previous to admission.

The evening of the day of admission, April 2nd, a long tube was passed, but it could not be made to pass for more than five or six inches. Through it two pints of warm water were injected, much returning past the tube. When it was returned, it brought nothing with it. A hypodermic of morphia gave him a good night's rest. The following morning, April 3rd, as the sickness was incessant, Dr. Little ordered him a drachm of bicarbonate of soda in a tumbler of hot water. This soon produced abundant vomiting for a few minutes, after which it ceased, and did not recur again till evening. That day, at Dr. Little's request, I examined him per rectum. The anus was then surrounded by deeply-congested piles. On passing the finger in, I felt, just above the prostate, what seemed like a large tumour bulging from the bladder and pressing the anterior wall of the rectum backwards, so that to pass by it the finger had to follow closely the curve of the sacrum. The finger, introduced to its full extent, reached a *cul-de-sac*, past which a long tube introduced beside the finger could not be got to pass. Examining carefully the surface of this tumour, the mucous membrane of the gut seemed to lie in concentric folds over it, and at one spot I felt what seemed to be the opening of the continuation of the gut, flattened, as it were, over the tumour. Into this opening, however, I failed to get either my finger or the end of the long tube. That night, during which he was very restless, he passed about a pound of faecal matter, of a slaty-grey colour, and containing evident traces of charcoal. The next morning Dr. Little and I saw him together. On examining the rectum, Dr. Little recognised the condition which I had described, and we came to the conclusion that the tumour was most probably caused by a folding-down of the sigmoid flexure into the recto-vesical space. This view was further corroborated by the fact that the acute hæmorrhoidal attack pointed to the obstruction in the bowel being near its termination. In view, however, of the fact that he had passed a motion containing charcoal, which had been taken *after* the first symptoms had set in, we considered that we should not be justified in taking more active measures at the moment. The bicarbonate of soda was repeated, and during the day he vomited only three times, but the character of the vomit was unchanged. The next morning, April 5th, the abdomen was found to be rather more distended, and tympanitic everywhere, except in the flanks. It was rather softer, and there was no tenderness. Rectal examination showed that there was no change in the condition of the parts. I tried the effect of an enema of three pints of warm water, but this came away without producing any result. On the 7th April, as there was no improvement, and he had

become more restless, he was brought down to the theatre, and placed fully under the influence of ether. Having well oiled my hand, I endeavoured to introduce it, and, after some time, succeeded in getting it all in except the thumb. This I could not succeed in doing, as my hand was stopped above by the *cul-de-sac*, past which I could not get my fingers. I now sought for the opening, and, after many ineffectual attempts, I succeeded in getting the point of the long tube into it. Water was now pumped up, but at first it returned past my hand. Whilst manipulating inside the rectum, and just as I was about to give up in despair, I felt the tumour sensibly altering in shape and hardness. By further manipulating it I gradually felt it to disappear, and simultaneously I was able to push the long tube further up into the bowel. More water was injected, and retained. Having passed about twelve or fourteen inches of the tube I thought it better to attempt no more then, but leaving the tube *in situ* the patient was brought back to his bed. He slept well that night, and was less restless the next day, but there was no motion from the bowels. The vomiting had quite ceased. On the 9th the bowel was again examined, as the tube had come out, and it was then found that the lump in the recto-vesical space had reappeared. Two or three fingers were introduced, and after a little manipulation the tumour was again pushed up, the long tube passed, and an enema administered, which came away soon after, slightly coloured but containing no fæces. In the evening, however, he passed a fluid stool. During the night he became delirious, getting out of bed and wandering. This continued for the next three days, but as the temperature and pulse remained normal and there was no increase, but an improvement, in the abdominal symptoms, it was hard to account for. On the evening of the 11th an enema of two ounces of turpentine, three ounces of castor oil, made into an emulsion with the yoke of an egg and a pint of water was administered, and the anus supported with a towel for fifteen minutes to prevent its immediate return. It was retained for half an hour, and when it acted it brought with it a large slaty coloured solid motion. The next evening he got another enema, and the following day the bowels acted naturally twice, the discharge each time being copious. On the 15th several large solid motions of a normal colour were passed, and from this out he rapidly improved. For precaution he was retained in hospital till the 1st of May, when he was allowed home. The bowels now acted normally once a day, and all his symptoms of obstruction had disappeared.

I think there cannot be much doubt now, though there was room for misgivings before the reduction of the tumour, that the cause of the obstruction in this case was a twist in the large intestine, at or immediately below the sigmoid flexure. It is in this situation that a twist or "dislocation" of the bowel usually occurs, though



the accident is not a very common one. The history of this case, the peculiar method by which relief was obtained, and the satisfactory result, render it worthy of record, especially in connexion with the first case, with which it had many features in common.

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ART. XXVII.—*Notes on a Rare Form of Skin Disease, resembling in some of its features Urticaria Pigmentosa.\** By WALLACE BEATTY, M.B., Assistant-Physician to the Adelaide Hospital.

IN January last the boy whom I exhibit to the Academy was brought from Portarlington to the Adelaide Hospital, suffering from a peculiar disease of the skin. As I was in much doubt regarding the diagnosis of the affection, I was anxious to get the opinion of the members of the Academy on his case, so I wrote to his father requesting him to bring up my former patient, and also his younger brother, who, I had heard, was affected in a similar way. With this request he complied. My notes on the elder brother's case are as follows:—

Moses L., aged fifteen, a fairly healthy-looking lad, dark complexioned, first came under my observation in January last. The appearance of the skin to-day is much the same as it was when I first saw him, and is as follows:—An eruption is present over a considerable part of his body, in the form of spots of four different kinds, which appear to represent different stages—1. Red, slightly-raised pimples, some the size of the head of an ordinary pin, others larger, about split-pea sized, mostly topped with a minute blood-clot, the result of scratching. 2. Dull-brownish circular spots, about  $\frac{3}{8}$ -inch in diameter for the most part, but some rather larger, on a level with the surface of the skin, and presenting to the finger passed over them either the feel of healthy skin or of skin slightly tougher than normal; the colour does not alter on pressure. 3. Similar sized spots, with a whitish centre and dull brown periphery. 4. White spots of different sizes, some very small, others larger, but only few as large as the brown ones. These are mostly on a level with the surface of the skin, and feel somewhat firm to the touch; some, however, present minute depressions on their surface, being somewhat "thimbled," and one or two present minute furrows radiating from the centre. The localities affected are the neck, the back and front of chest, the extensor surface of the arms, the forearms, the extensor surface of the thighs and legs. The spots are most abundant on the chest. On the forehead there are two or three brown spots, and on the cheeks,

\* Read before the Medical Section of the Academy of Medicine, Friday, March 14, 1884.

especially the left, are a few red pimples. One or two red pimples are present on the scalp. The eruption spares the hands and feet, the flexor aspect of the arms, the axillæ, the flexor aspect of the knees, the abdomen, and genitals. The white spots unsurrounded by a brown ring are very abundant on the front and back of the chest. There is a peculiar mottled appearance of the skin, very marked between the shoulders, the unaffected skin being brownish, and contrasting with the darker and lighter spots. The eruption consists chiefly of brown maculæ, with or without a whitish centre, and of white spots; the red, slightly-raised, pimples are only found here and there. The sensation in all the spots is normal.

The course of the affection, according to the boy's account, which he gives in a very clear manner, is as follows:—He first suffers itchiness in one spot; as yet the skin looks perfectly normal; he scratches the spot; the scratching is followed by redness, and often by an appearance like "hives." After some hours (on the following morning, if he scratches the itchy spot the night before) a slightly-raised pimple appears, which may or may not be itchy. Soon this pimple flattens, becomes dull-brown, and enlarges; after a time the centre becomes whitish, the circumference remaining brown; and finally the brown colour disappears, leaving a white spot, which persists. He cannot say in what space of time these changes take place. The itchiness of each spot is as a rule felt only at the commencement, and may last only a few minutes; it is more often felt at night than during the day, but he is never kept awake by it. Raised pimples sometimes appear without previous scratching; occasionally pimples remain itchy for a few days.

His previous history, as obtained chiefly from his father, is as follows:—He was quite healthy when born, and the skin was free from eruption. At the age of seven years a large sore came on the back of his head, from which a quantity of matter issued; this after a time got well. Shortly after he got a "gathering" in one ear, which got well also. Three years ago, or thereabout, his father noticed occasionally on his face small red spots, such as might be produced by scratching a small pimple; these got well. It was afterwards noticed that he used to scratch his neck and back between the shoulders; but it was not till the spring of 1883 that spots similar to those at present on his body were observed; their course since then has been as above indicated. Two years ago an abscess formed over the right lower jaw, which burst and then healed up.

With regard to family history, his father and mother are first cousins, the children of two brothers. Their grand-parents were not related. His grandmother (on the mother's side) was born in Barbadoes, her mother being a native of that place, but her father an Englishman. The boy's father is very healthy, and never had any skin-affection. His mother has been out of her mind several times, and her mother was so also. His mother has had six living children; two of these died, one of

scarlatina, another soon after birth; two children were dead-born. I have made careful inquiry, and see no grounds for suspecting that there is any syphilitic taint in the family. The father's brother died of phthisis. A brother, younger than the patient, is affected similarly to him; but no other member of the family. These two brothers have not slept together.

With regard to the younger brother, Edward L., spots were first noticed about twelve months ago, when he was eleven years old, and appeared on the arms; they run a similar course to that noticed in the brother's case. The localities affected are the extensor surface of arms and forearms, the back of the chest, and in small numbers on the front of chest and lumbar region, the gluteal region, outer aspect of thighs and legs. The eruption is absent from the axillæ, flexor aspect of arms and forearms, abdomen, genitals, and flexor aspect of knees. The pigmented spots in his case are almost all slightly raised. The boy is delicate looking, and has a cough. The urine in each case has been examined, and found normal. The mucous membrane of the mouth and pharynx is not affected.

I am in great doubt as to the nature of the skin-affection in these two cases. The brown colour is evidently due to the formation of pigment; how formed it is uncertain. The pigment appears to atrophy subsequently, first centrally and then peripherally.

Dr. Walter Smith saw the cases at my request, and suggested to me that the affection may possibly be of a similar nature to the disease first described by Dr. Nettleship in 1869, and named subsequently by Dr. Tilbury Fox, "*Xanthelasmoidea*," and by Dr. Sangster, "*Urticaria Pigmentosa*." A very complete account of the cases of this disease hitherto recorded has been given by Dr. T. Calcott Fox, and is published in the "*Medico-Chirurgical Transactions*" for 1883. I think Dr. Smith's suggestion is a very good one. I do not know of any other skin disease to which my cases bear a closer resemblance. The itchiness, the occurrence of an appearance similar to wheals on the part scratched, the formation of pigmented spots, are very similar to the description given of that disease. Still, however, there are important points in which my cases differ from all the cases of *urticaria pigmentosa* hitherto recorded:—

1. The eruption did not begin till several years after birth, whereas it appeared in the recorded cases of *urticaria pigmentosa* within the first six months.
2. The eruption in my cases begins as pimples, always small,

whereas in the other cases the spots are usually larger, though varying in size up to the size of a shilling, and usually more of the nature of tubercles, or nodules, or localised infiltrations.

3. The subsequent atrophy of the pigment and formation of white spots are quite peculiar.

I have not been able to produce characteristic wheals by scratching, but the boy asserts that they often appear. The redness, however, produced by scratching is more marked and more persistent than normal.

I think it well to remark that there is no reason whatever to suspect the irritation of epizoa as a cause of the eruption. The boys belong to a respectable family, and are themselves very clean.

Whether the features which distinguish my cases from those of urticaria pigmentosa hitherto described are sufficient to mark them out as examples of a separate disease is a matter worthy of consideration. I know of no other disease to which to refer them.

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#### THE "POSTAL MICROSCOPICAL SOCIETY."

A SOCIETY under the above name has, since its commencement twelve years ago up to the present time, put in circulation chiefly such slides and notes accompanying them as are adapted to general interest; special pathological and histological slides and notes have not hitherto been circulated continuously. It is now proposed to add a special Medical Branch, which all members of the profession whose names appear in the "Medical Directory" are invited to join. The entrance fee is 5s., and the annual subscription 10s., for which each member receives, at about fortnightly intervals, a box containing twelve slides, accompanied by a note-book; also one copy of the "Journal of Microscopy" quarterly. The medical slides and notes will be kept distinct from those of the Society in general, and form a separate circulation. Mr. Alfred Allen, 1 Cambridge-place, Bath, is the Hon. Sec., and will be happy to send a copy of the Rules, and to give any further information.

#### NITRITE OF AMYL IN AMMONIACAL URINE.

PROFESSOR VON DITTEL observed at the Vienna Medical Society that he had for a long time past, in obstinate cases of ammoniacal urine, found this substance very useful. A solution is made of three drops in 150 of water, and a tablespoonful of this is added to a litre of water, with which the bladder is washed out. The unpleasant smell of the urine diminishes immediately, and is replaced by a pleasant ether odour.—*Allgemeine Wiener medicinische Zeitung*, January 15, and *Med. Times*.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*A Manual of Histology and Histological Methods.* By J. M. PURSER, M.D., F.K.Q.C.P.; King's Professor of the Institutes of Medicine, School of Physic, Trinity College, Dublin. Dublin: Hodges, Figgis, & Co. London: Longmans, Green, & Co. 1884.

THE great increase in the teaching of practical histology which has followed the introduction of this subject into the examinations of many qualifying bodies has been accompanied by the appearance of several works, describing either the characters of the animal textures or the methods of making histological investigation, but as far as we know this is the first work in English which includes "Histology and Histological Methods" in one volume. Such a work has been long needed and anxiously looked for by students of medicine, who hitherto have been obliged to seek for their histological descriptions in one book and their method of working the microscope in another. We heartily congratulate the author on producing in a small space, at a low cost, a work which completely fulfils the object he set before himself of producing "a concise but connected description of the minute structures and organs of the body, and, at the same time, giving directions for their examination by the microscope." Such a work is a boon not only to the overworked medical student, but also to the busy practitioner of medicine, who, if he wish to keep abreast of the times, must make himself at home with the microscope as a means of research.

It appears difficult in the face of our time-honoured prejudices—which expect a book on histology to be profusely "illustrated"—to understand that a work like the present can be complete without microscopic drawings; but mature experience of the mode of improved modern instruction, which daily throws more and more weight on the personal observation of the student, makes us believe that the author has decided wisely in excluding from his pages figures which, at best, must be very similar to those given in many modern students' books.

We believe it to be far more valuable to the student to be forced to use his own powers of observation, and to make drawings from nature, than to be supplied with ready-made visual ideas of the textures which he should see and study for himself. Besides, now-a-days, histological drawings are no great novelty or attraction: and being made, when accurate, from some special specimen prepared in some special way, they as often as not mislead the junior student, who seldom can recognise in the preparation he himself makes any likeness to the picture he is supplied with.

After careful perusal of his admirable book, we cannot understand why—if it be not from his own modesty—the author states in his preface that “it is impossible to get original microscopic drawings made in Dublin;” but we quite agree with him that it is wiser to occupy the pages with the excellent matter he provides, which, certainly, could not be better produced elsewhere; and it is only thus the reader is able to have so enormous an amount of information in so small a bulk.

The general arrangement of the subjects is such as one ordinarily falls into in teaching a practical class of histology, which fact makes it an invaluable class handbook. After some introductory details about the use of the microscope and the general subject of cells, the simple tissues are treated very fully, the most approved and modern views being stated in a clear and precise manner, so that the student's mind is not vexed with ambiguity, or discouraged with vague discussion.

While quite recognising that the book thoroughly fulfils its objects, as far as junior students are concerned, one cannot help feeling some regret that the part treating of the various organs has not been made a little more full, for very little more detail would make the description of the great viscera so complete that even those who had never had the advantage of practical instruction in histology could, with this manual, work through their minute anatomy, as they now can through the more simple tissues; and even the most advanced student could study with satisfaction every part of the subject without other aid.

A very valuable part of the book is contained in an appendix which gives technical details that could not well be introduced elsewhere. Explicit directions are given on the subject of measuring and drawing microscopic objects; determining the magnifying power of the microscope; numbering the blood corpuscles and examining the circulation of the blood in the small

vessels, as well as injecting, hardening, and embedding tissues. The various mechanical methods used in cutting and preparing sections and the details of the various reagents employed for staining, fixing, and preserving, are described in a most clear and concise manner in the latter part of this same appendix.

We are impressed throughout with the extent and thoroughness of the author's knowledge of the subject upon which he writes, and the personal intimacy with the minutest details of histological methods which he displays. The description of the tissues and the interpretation of the theories and explanations given by different workers are straightforward and free from the personal bias which so often warps the judgment of those who have worked very assiduously at a subject.

We think it is a pity that the account of the methods which forms so essential a part of the work, should be printed in smaller type than the description of the tissues; and, as a matter of taste, we should prefer that the block type be confined to headings or the beginnings of paragraphs, which would sufficiently facilitate reference. When a page is bespattered with dark words the smoothness of the ordinary type is destroyed, and it becomes less agreeable to read—for instance, on the latter half of page 85 the block letters are so obtrusive that the intervening type is quite thrust into the shade.

Being unique in the extent of its scope, singular in its clearness and simplicity, as well as exceptionally free from the ordinary forms of error which appear in manuals, it appears to us to be but insufficient praise to say that this is by far the best and most useful book for the student of histology that has yet appeared in the English language.

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*International Review of Medical and Surgical Technics.* Published by the International Medical Exchange. Boston, U.S.A.

ANOTHER Medical Quarterly Review has just made its first appearance in Boston, U.S.A. The "International Review of Medical and Surgical Technics," the official organ of the American Association of the Red Cross, is to appear quarterly.

Vol. I., No. 1, bears date January, 1884, and the subsequent numbers are to be issued upon the 1st of January, April, July, and October, in each year. "The Review is devoted chiefly to the description, illustration, and discussion of instruments,

appliances, and methods of operation that have been recently devised or published; the manufacture, use, care, and repair of instruments, as well as makeshifts and expedients in case of emergencies or inability to procure the instrument desired, receives special care."

The volume before us contains a vast number of useful hints on all sorts of operations, and cannot fail to be of service to those especially who improvise instruments and appliances as occasion arises. We heartily welcome this addition to the periodic medical literature of America.

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*A Treatise on the Diseases of the Nervous System.* By JAMES ROSS, M.D., LL.D.; Fellow of the Royal College of Physicians, London; Senior Assistant-Physician to the Manchester Royal Infirmary; Consulting Physician to the Manchester Southern Hospital. Second Edition, Revised and Enlarged. Vol. I. Pp. 1023. Vol. II. Pp. 1047. 8vo. London: J. & A. Churchill. 1883.

IN the number of this Journal for July, 1881,\* we introduced Dr. Ross's excellent work to our readers in a laudatory notice of the first edition, which appeared early in that same year. The very favourable reception subsequently accorded to the book renders the reviewing of the second edition almost a work of supererogation. Nor, indeed, would it be practicable to criticise at length a treatise extending over two thousand pages. Happily, detailed analysis is unnecessary, and hostile criticism is impossible, so admirably has the author discharged his self-imposed task of compiling an exhaustive treatise on the most intricate of all the departments of clinical medicine—that relating to diseases of the nervous system.

So far as the work is a compilation—and we have on a former occasion pointed out that, of necessity, such a book must be mainly this—the present contrasts favourably with the former edition, inasmuch as the author has added copious references, "an addition which," he doubts not, "will be acceptable to special workers in the field of neurology." A good deal of new original matter, however, has also been included in this edition, consisting chiefly—Dr. Ross is careful to point out—"of records of, and immediate inferences from, observed facts, which must necessarily possess more or less permanent value."



As an example of the singularly clear, simple and attractive style in which Dr. Ross expresses himself, we quote at length from the first volume his graphic description of neuralgia. He writes:—

“Neuralgia consists of periodic attacks of severe pain, occurring suddenly and spontaneously in the course of one of the larger nerve trunks, and ramifying in all or a few only of its terminal branches.

“(1.) *General Symptoms.*—The various forms of neuralgia are generally preceded by premonitory symptoms, which are more or less strongly marked, slight twitching, formication, pricking sensations, or even pain is felt in the nerve-region about to be affected, and sometimes there is a feeling of general indisposition. The condition of the patient at the time of the first attack is always, as Dr. Anstie has pointed out, one of *debility*, either general or special. Patients are frequently attacked for the first time after an exhausting illness or fatigue, or when they are in an anxious condition from some cause or other.

“There is always a degree of suddenness in the onset of neuralgia. Usually the first warning is a sudden, not very severe, and transient dart of pain. The patient has probably been suffering from some degree of general fatigue and malaise, and the skin of the affected part has been somewhat numb, when a sudden stitch of pain darts along the nerve. It ceases immediately, but in a few seconds or minutes returns, and then darts of pain recur more and more frequently, until at last they blend together, so that the patient suffers continuous and violent pain for a minute or so, then experiences a short intermission; but the pain returns again, and so on. These intermittent spasms of pain go on recurring for one or several hours. Then the intermissions become longer, the pains abate, and at last the attack wears itself out. The intensity of the pain during the paroxysm may vary from moment to moment, and it may become so intense that the patient is almost driven to desperation.

“The pain is described as tingling, tearing, boring, stabbing, dragging, burning, or lightning-like, and it may be felt as if it were on the surface or deep in the bones. In some cases the pain shoots from the centre to the periphery, forming descending neuralgia; while at other times it takes the reverse course, forming ascending neuralgia. The locality of the pain varies; sometimes it is in a fixed spot, while at other times it changes about; and it is often directly referred to a nerve trunk which is painful throughout its whole course. The pain of neuralgia is usually increased by movement, so that the patient keeps the affected part as much as possible at rest, although occasionally it is relieved by movement of the part. Superficial irritation of the skin frequently produces an attack of pain, but continuous, firm, pressure on the part relieves it.

“(2.) *Painful Points.*—These points were first described by Valleix, under the name of ‘*points douloureux*.’ An examination of the part during

an attack of superficial neuralgia will reveal one or more points which are extremely sensitive to the pressure of the tip of the finger. The sensitiveness of these points stands almost in a direct relation with the severity of the paroxysm, but occasionally they may be present during the period of remission; in some instances pressure on them produces an attack. These tender spots are found at various points in the course of the affected nerves, where their trunks pass from a deeper to a more superficial level, and especially where they emerge from bony canals or pierce fibrous fasciæ, or even when the nerves lie on a hard bed, so that they may be easily compressed. Anstie found that the painful spots were absent in the early stage of neuralgia, and that they appeared for the first time only at the situations of severest neuralgic pain.

"(3.) *Point Apophysaire*.—Trousseau insists that in all forms of neuralgia the spinous processes of the vertebræ corresponding to the origin of the painful nerve, and which he calls 'points apophysaire, or spinous points,' are painful on pressure; but these points are also present in cases of 'spinal irritation' and in myalgia (Anstie).

"(4.) *Concomitant Sensory Symptoms*.—During the height of the neuralgic paroxysm there is frequently an *irradiation of the pain* to other sensory nerves, generally to branches of the same trunk or to neighbouring nerves, but occasionally to more or less distant nerves. When, for instance, one branch of the fifth is primarily affected, the pain spreads to the two others; next in frequency from one nerve, as the sciatic, to the corresponding one on the opposite side; and lastly, to quite different nerve territories, as from one of the intercostal nerves to the fifth. These radiated pains are not usually so intense as the original one; the duration of the attack is not so long; they begin to be felt when the paroxysm has reached its height, and disappear before it has completely subsided. Various subjective sensations, as formication, creeping, and numbness, are felt in the region to which the affected nerve is distributed during the remission; but during the paroxysm their presence is obscured by the severity of the pain. More marked disturbances of sensibility, as hyperæsthesia or anæsthesia, are also frequently met with in the affected region (Türk). Nothnagel has found that in neuralgia of the nerves of the extremities, without any discoverable anatomical lesions, an alteration of the tactile sensibility of the skin is invariably present. As a rule, in recent neuralgia, having a duration of from two to eight weeks, there is *hyperalgesia* of the skin, and in neuralgia of long standing *anæsthesia*. These symptoms are usually limited to the region of distribution of the affected nerve; but in some cases of limited neuralgia the disturbances of sensibility affect the whole of that side of the body.

"(5.) Various *motor, vaso-motor, secretory, trophic, and psychological* symptoms are associated with neuralgia, but our main object at present is to describe the elementary symptoms separately. The description of

the remaining concomitant symptoms of neuralgia is deferred for the present."—Page 121, *et seq.*

The book is very fully illustrated, not only with numerous woodcuts, but also with lithographs and photographs. In the first volume the subject of "Diseases of the Optic Nerve" is illustrated by a beautifully coloured plate, containing a series of chromo-lithographs representing the normal fundus of the eye, optic neuritis, white-disc atrophy, and gray-disc atrophy. In the same volume there are two plates of photographs—the first showing the appearances in progressive muscular atrophy, such as the *main en griffe*, the extension and abduction of the thumb, caused by atrophy of the opponens and adductor pollicis, atrophy of the rhomboid muscles and "winged scapulæ;" also the paralytic "pes equinovarus" of infantile paralysis. The second photographic plate represents some of the prominent features of pseudo-hypertrophic paralysis (atrophia musculorum lipomatosa).

Similarly, in Volume II., we find a series of photographs in Plate IV., two of them intended to illustrate the arthropathies of locomotor ataxy (tabes dorsalis), and two others representing paralysis agitans in an aged woman. Plate V. contains a number of drawings by Mr. A. H. Young, Pathological Registrar to the Manchester Royal Infirmary, illustrating the morbid anatomy of tetanus and hydrophobia. In Plate VI. there are four photographs by Mudd—one representing a case of late contracture in hemiplegia, and three others the spastic hemiplegia of childhood.

It will thus be seen that the author has spared neither time, nor trouble, nor expense, to render his work a thoroughly complete and reliable treatise. As such, we have much pleasure in recommending it to all students of medicine in general and of neurology in particular.

*Illustrations of the Influence of the Mind upon the Body in Health and Disease: Designed to Elucidate the Action of the Imagination.* By D. H. TUKE, M.D. Second Edition. Vols. I. and II. London: J. and A. Churchill. 1884. Pp. 335, 326.

If there are any who are ignorant of this influence—if there are any unaware of John Hunter's statement that "there is not a natural action in the body, whether involuntary or voluntary, that may not be influenced by the peculiar state of the mind at the time," a perusal of these volumes is calculated to enlighten them.

They will find therein illustrations of this influence, and proofs of its power and extent in causing disorders of sensation, motion, and of the organic functions. The work is addressed to the laity as well as to medical readers, which necessitates a deal of confused reading in it. The miracles at Lourdes and Knock are referred to at length. On the subject of hydrophobia, to which we eagerly turn as a test case, the author states that whatever force there may be in the arguments which favour the revelation of hydrophobia to the domain of the imagination, few, if any, will now be hardy enough to deny an actual material virus, and a genuine, as distinguished from a nervous, hydrophobia. Few will be inclined any longer to doubt the influence of the mind on the body if they believe the story of the daughter of the Hanoverian Consul, aged eighteen, who dreamed of the hated rhubarb dose she was destined to take the following morning, and was gripped and freely purged five or six times by the imaginary physic (Vol. II., p. 207).

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#### *RECENT WORKS ON DENTISTRY.*

*The Student's Guide to Dental Anatomy and Surgery.* Second Edition. By HENRY SEWILL, M.R.C.S.E., L.D.S. London: J. & A. Churchill. 1883. Pp. 228.

THAT this work has reached a second edition may be taken as a fair proof that its author has succeeded, to a certain extent, in supplying a good text-book for students.

We have no hesitation in saying that not only dental students, but students in medicine, who intend going to the Colonies or remote country districts, will find a great deal of useful information in its pages.

The author in his preface tells us that he has had the assistance of Mr. Arthur Underwood in preparing this edition; and as we know that Mr. Underwood has been engaged for some considerable time in original work in investigating caries, we have read the chapter on that subject with great pleasure. In it the views of Wedl, Tomes, Leber, and Rothenstein, and others—in short, the views of most modern writers on the question—are presented to the student in a convenient form. Of the important work done by Messrs. Underwood and Miles a short account is given. These observers have found micro-organisms in the dentinal canals in more or less number, according to the degree of softening and disintegration of the tissue. The presence of the micro-organisms so far has

been proved constant in caries—so much so, that it is assumed they are indispensable to that process. These observers have also shown that although a weak acid is able to dissolve out the lime and salts from enamel and dentine, yet the result of such solution is not in the least like caries in anyway.

Messrs. Underwood and Miles have also made a series of flask experiments, placing the teeth to be acted upon both in septic and aseptic fluids; the results of these experiments are not given, owing to the repetition of the experiments at present on a more elaborate scale.

The chapter on the treatment of caries is good in many respects, but we are sorry to observe by the following passage that the author has evidently had little or no experience in using cohesive gold:—

“Again, the entire cavity can be filled with adhesive gold. A loosely folded ball or pellet is packed on the floor of the cavity, and consolidated, and to this, piece after piece is added, each being thoroughly welded or kneaded to the mass by means of small, pointed, serrated instruments.”

Were any unfortunate student to follow the method described by Mr. Sewill, he would have the conclusion forced upon him, by bitter experience, that to fill a cavity with cohesive gold was nearly impossible.

In the chapter on exposure and diseases of the pulp, Mr. Sewill gives some very good methods of capping an exposed pulp; we also like the method of filling fangs which he evidently prefers, viz.:—drying them first with absolute alcohol, then filling with oxychloride of zinc.

The chapters on “Diseases of the Antrum,” “Pivoting Teeth,” and “Morbid Growths,” may be objected to as rather short; but of course it is difficult to give anything like full information in a book mainly intended for students, and therefore limited as to size.

We hope, should Mr. Sewill's book reach a third edition, that he will add a chapter on fractures of the jaws, giving diagrams of some of the best forms of splints. We venture to suggest this, as the omission of it leaves a gap in an otherwise useful handbook.

*Papers Relating to the Administration of the Dentist's Act; reprinted from the Journal of the British Dental Association.* Pp. 139.

IN a handy form will be found grouped together, with references to each other, the various reports of the Dental Proceedings of the General Medical Council, the Report and Evidence of the Com-

mission on Medical Acts, with an excellent address by John Tomes, F.R.S., the retiring President of the British Dental Association, delivered at their annual meeting held at Liverpool, August, 1882. Dental practitioners ought not to consider their shelves of dental literature complete without this little volume.

*The Journal of the British Dental Association. A Monthly Review of Dental Surgery.* J. & A. Churchill. Vol. V., Nos. 1-4. Pp. 255.

WE have before us the first four numbers for the current year of this journal.

In the January number we notice a paper by Mr. Arthur Underwood "On Pain," in which he points out very properly that pain is after all only a symptom, not a disease; it is always accompanied by increased vascularity—this fact being so well recognised by Trousseau and Nussbaum that on several occasions they tied the carotid in obstinate cases of tic-douloureux. Mr. Underwood quotes Dr. Lauder Brunton as stating that neuralgia was due to a condition of vascular colic in which the artery was thrown into a condition of spasmodic contraction, alternating with relaxation of the muscular coats.

The author of the paper draws attention to the researches of Drs. Heitzman and Bücke, which show that human dentine is traversed by a protoplasmic network contained in the canals, intercommunicating freely and directly continuous with the nerve-endings in the pulp, through the odontoplast cells. These facts account for many obscure cases of neuralgia, where metallic fillings have been unwisely inserted into teeth; and Mr. Underwood suggests the wisdom of adopting a rule of never inserting a metallic filling into any tooth, under any circumstances, without some non-conducting material being interposed between the dentine overlying the pulp and the metal, if the cavity is deep enough to admit of the insertion of such protective material.

W. Bennett May, F.R.C.S., is the author of a good paper in the April number dealing with "Cancerous Disease of the Tongue and Mouth." Mr. May believes in the local origin of epithelial cancer, which rapidly extends its area by self-infection, and regards every cause of long-continued irritation of the tongue as a possible cause and forerunner of epithelial cancer of this organ, liable (when the person arrives at the epoch of life at which a tendency to this form of degeneration exists, viz., the middle or late middle life) to become

the nidus or seat of cancerous disease. "If we realise the existence of this precancerous epoch, we shall admit that simple ulceration of the tongue, from whatever cause arising, assumes a highly important and formidable aspect in virtue of this liability." Mr. May goes on to discuss cystic growths in connexion with the jaws, and lays special stress on the great importance of forming an accurate diagnosis in affections of the antrum—*e.g.*, where one has to distinguish between cystic disease, chronic abscess, and solid tumours. In draining an abscess the author recommends removal of a portion of the alveolus to prevent retention of pus: we fancy such a proceeding would materially aid in cutting short the length of time these cases often require for their ultimate cure.

*Compulsory Vaccination in England, with Incidental Reference to Foreign States.* By WILLIAM TEBB. London: E. W. Allen. 1884. 8vo. Pp. 63.

It seems doubtful whether a work such as the above deserves any notice at the hands of a medical journalist. Although not produced under the auspices of the Anti-Vaccination Society, it is manifestly a first cousin of their publications, and the pad of advertisements at the end also stamps the character of Mr. Tebb's production. It would be a useless waste of space to discuss the nonsensical propositions put forward by Mr. Tebb, but we may refer our medical readers who desire amusement to page 9, where we find Mr. Tebb attributes the increased mortality from syphilis, cancer, tabes mesenterica, phlegmon, and pyæmia, skin disease (he does not say what kind), and bronchitis, to vaccination. He seems to think that the introduction of bronchitis might be too much of a joke, so he condescends to explain in a footnote "that it is often observed by intelligent medical authorities to supervene upon or after vaccination." We think, on the same ground, deaths from "teething" might as well be included, and might serve the useful purpose of increasing Mr. Tebb's numbers. We shall only give one more illustration of Mr. Tebb's method of *making* statistics. At pages 59 and 60 we find a table, which we are seriously informed, "has been prepared, after careful investigation, by Mr. Alexander Wheeler, of Darlington." The object of this table appears to be to show that smallpox is just as fatal now as it was before vaccination was introduced. In support of this view Mr. Wheeler quotes in his table—"1876-80, Dublin Hospital (Dr. Grimshaw), cases, 2,404; vaccinated, 1,950; deaths, 523; deaths

per cent., 21·7." We take this as an example of the disgracefully misleading character of Mr. Tebb's statement. Dr. Grimshaw did not publish these figures at all; they are Dr. Reuben Harvey's, and appeared in this Journal for July, 1880 (Vol. LXX., p. 25). Dr. Harvey's statement is that there were 2,404 cases, of these 1,956 were vaccinated, of whom 235, or 12 per cent., died; and there were 448 unvaccinated, of whom 288, or 64·2 per cent., died; proving that, so far as these figures go, the mortality of unvaccinated persons is more than five times as great as that of the vaccinated—in other words, exactly the contrary of what Mr. Tebb endeavours to convey by his table, which we unhesitatingly say was deliberately rigged up to convey a false impression. We admit this is strong language, but we use it advisedly, and consider that much stronger would be quite justifiable under the circumstances. The rest of this work is "all of a piece" with the examples we have given.

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*A Treatise on Bright's Disease of the Kidneys: its Pathology, Diagnosis and Treatment.* By HENRY B. MILLARD, M.D. New York: William Wood and Company. 1884. Pp. 246.

THE nomenclature of this book is by no means exact, as it treats of almost every form of nephritis—croupous nephritis, acute and chronic; suppurative nephritis; interstitial nephritis, acute and chronic. The author's defence, as stated in the preface, is that most of the conditions he describes are generally understood as belonging to Bright's disease, and so he has given his work that title. He advocates the use of mercury, in small doses to be sure, both in acute nephritis and in the chronic interstitial form. The volume is the result of the experience of nearly twenty-six years of hospital and extensive private practice, and of several years' study in the laboratory of pathological and healthy kidneys of men and animals.

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#### PILOCARPINE IN HICCOUGH.

IN the *St. Louis Courier of Medicine* Dr. Pipino records the successful treatment of a distressing hiccough in a gentleman, aged seventy-three, after having failed to relieve the patient by the ordinary remedies, by the subcutaneous injection of three centigrammes of pilocarpine. References are given to reports of other similar cases in which the hypodermic administration of pilocarpine had equally favourable results.



## PART III.

### HALF-YEARLY REPORTS.

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#### REPORT ON PUBLIC HEALTH.\*

By **CHARLES A. CAMERON, M.D.**; S.Sc.C., Camb.; M.K.Q.C.P.;  
Vice-President of the Institute of Chemistry of Great Britain  
and Ireland; Hon. Member, Societies of Hygiene, Paris,  
Bordeaux, &c.; Member of Council and Professor of Hygiene and  
Chemistry, R.C.S.I.; Medical Officer of Health for Dublin, &c.

#### THE PNEUMONIA OF THE PUNJÂB FRONTIER.

IN the appendices to the Army Medical Department Report for 1881, which has recently been published, Surgeon George M. Giles, M.D., F.R.C.S., gives an interesting account of a form of pneumonia which prevails on the Punjâb frontier. The disease differs from the acute croupous pneumonia met with in Europe, and appears to be of a specific nature, and contagious. Only a few cases came under Dr. Giles' observation; but Dr. J. Kelly, who had some experience of the disease, was also of opinion that it was the result of contagion.

It would appear that when the patient first comes under medical observation his temperature is usually very high—from 103° to 105° F.—from which it is to be inferred that the disease sets in suddenly and violently. The pulse is rapid, weak, and compressible, the artery being relaxed and full; the tongue is foul; in some cases the bowels are confined; in others there is diarrhœa; the respiration is quick, shallow, and "catchy." In every case observed by Dr. Giles there were pleuritic signs, more or less marked, but the pleuritis was only in the earlier stages of the disease, and in only few instances proceeded to effusion. The patient, on being questioned, usually complains of great pain and tenderness on one side, and when the seat of pain is auscultated, a pleuritic rub is generally heard. At this stage there is commonly no marked dulness, but there may be detected irregularly-disposed

\* The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

patches where the resonance is imperfect. The breathing is harsh, and the expiration is prolonged and very audible. Usually scattered, noisy, bronchitic râles are heard; at first there is but little expectoration.

For from five to ten days the temperature continues high, with, however, a morning moderate remission; it then rapidly falls to the normal point. The pulse declines in frequency and strength, and in severe cases becomes almost imperceptible. An improvement in the condition of the pulse is regarded as a most favourable sign.

The physical signs increase in gravity as patch after patch of one or both lungs becomes dull; but the dullness is quite different from that present in the acute croupous pneumonia of Europe—"the distribution of the dullness being curiously irregular, *e.g.*, the flank and mammary region perhaps but little impaired in resonance, while the lower part of the lung in front and the supra-scapular region behind are almost absolutely dull."

So variable are the physical signs, even during a single day, that an accurate account of them would fill several pages. It would appear that the dull areas increase up to the period of the fall in the temperature of the patient, after which it is stationary for a day or two. Now the bronchitic sounds seem to drown the finer crepitations, owing to a more moist condition of the lungs. During the process of consolidation, vocal resonance and fremitus, though often exaggerated, never equal in intensity these phenomena in the European croupous pneumonia. The sputa pass from a glairy, clear mucus to the condition of an opaque, greyish-red substance, having denser flocculi, which sink in water. Though occasionally streaked with blood, they never resemble the "prune juice" sputa of European pneumonia. When the patient is recovering, the sputa become more abundant, and more like the sputa of acute bronchitis; finally, they become clear mucus.

On the whole the disease appears to resemble broncho-pneumonia as to its physical signs, and croupous pneumonia as regards acuteness and temperature. Dr. Giles gives the clinical history of several cases of this peculiar form of pneumonia, from which we select two of the shortest, one having a favourable, the other a fatal, ending:—

"Biwani Bikh, a Kahar, aged twenty-two.—Feb. 26. Patient admitted this evening in great distress. Respiration 60 per minute; temperature 103°. Weak, but artery relaxed and full; tongue

coated and moist; bowels loose. Chest—both front, resonance normal. Coarse crepitant râles below; larger moist sounds above; great pain left flank, where is heard a dry, creaking, pleuritic sound. Right back commencing dull; upper back fairly resonant. Left back dull at base, fairly resonant above. Fine crepitations, with tubular breathing over both bases; above larger moist sounds. Blood contains a few micrococci of the smaller sort.

“27th. Patient in great distress. Sputa light brown colour, gelatinous, very little froth on top, with flakes grey-coloured material. Pneumonic physical signs extending, with indications of commencing effusion. Left base micrococci increased in number.

“28th. No further extension of pneumonia. The blood swarms with micrococci; the small sort in chains, the larger separate.

“March 1st. Doing well, but still much difficulty in breathing. Blood contains great numbers; all three forms.

“2nd. Still improving. Bowels again loose. In blood, mainly zoogloea; many small and a few of large kind. Evening.—Seems worse again. Very weak pulse, feeble and flickering. The temperature which had fallen has gone up again quite suddenly to 104°. Very few micrococci to be seen, and those all of the smaller kind.

“3rd. Patient in an almost typhoid condition. Only scanty numbers of small forms to be seen in blood.

“4th. In a most critical condition. Scarcely any air enters chest. Has great difficulty in expelling his sputa. Pulse weak and fluttering. Blood again swarming with micrococci, mainly of the smaller, though some of both other forms. The small kind remarkably often in couples.

“5th. Patient still in a dangerous state, but on the whole slightly better. All three forms present in blood, the larger sort being especially numerous.

“6th. On this date I started to inspect outposts, and so saw no more of patient till the 13th, when he was convalescing, though still weak. No micrococci could now be made out in blood. A few days after he was able to leave hospital and resume his work.”

*Remarks.*—It is to be noticed that at the time this man was at his worst—viz., on 2nd and 3rd of March, that there were singularly few abnormal bodies to be made out in his blood. May it not possibly be the case that at this period they had concentrated themselves in the capillaries of the lungs, and perhaps other organs—a kind of phenomenon which takes place in several microphytic diseases, *e.g.*, in anthrax?

"Sepoy Haim Singh, 4th P.I., No. 2,826, aged twenty-eight.—March 2nd. Admitted this morning. Countenance anxious. Much distressed. Breathing rapidly. Has cough. Great pain in breathing, especially right mammary region, where much tenderness. Pulse 140, weak, compressible; artery relaxed, but full. Tongue furred, raw at edges and tip. Bowels loose. Right front dull, except extreme apex, where fine crepitations may be heard; below almost absolute silence, except an occasional pleuritic creak. Left front resonant. Breathing puerile. Resonant back. Dull throughout. Tubular breathing interscapular region. Left back resonant; breath normal. Coarse moist râles, extreme base. Micrococci present in blood in great abundance, especially smaller kind, often in chains of considerable length. A few large nucleated forms. No zoogloea. Evening.—Breathing remarkably shallow and catchy. Blood as morning, but larger sort notably increased in number.

"3rd. Much the same. Bowels confined. Blood contains but few micrococci this morning. Still no zoogloea.

"4th. Extremely weak and anxious. Physical signs remain stationary. Blood contains a singularly large proportion of larger kind. No zoogloea to be seen.

"5th. Much distressed. Great pain in right flank, where only distant crepitations and râles can be heard. Blood contains small form; and also to-day zoogloea in considerable abundance. At this stage I lost sight of the man, having to go to outposts. During my absence he grew gradually worse and weaker, and died of exhaustion on the 11th (during my absence).

"No *post mortem* was obtained."

'As Dr. Giles inclined to the opinion that the pneumonia above described was of a specific character, he subjected the blood and sputa of the patients to microscopic examination. The blood was found to contain round particles, sharper in outline and less granular than the particles generally observed in the blood of persons in whom tissue change is rapidly going on. In the sputa there was little to notice save a great preponderance of *débris* over "formed elements." Dr. Giles was unfortunately unprovided with any proper staining material, such as methylanilin violet, so that he was unable to examine the sputa satisfactorily. It appears that Dr. Mackenzie, of the 5th Punjâb Infantry, had previously inoculated rabbits with the blood of a patient affected with what we may term for our present purpose Punjâb pneumonia, but the

results had proved negative. Nevertheless this did not prevent another local medical man, Dr. Haig, 1st Punjâb Cavalry, from believing that the disease was contagious, and it appears that he has collected a small number of cases, the circumstances relating to which favour the contagious theory. This, also, being Dr. Giles' view, and bearing in mind that Villemin, in 1865, had succeeded in producing tuberculosis by subcutaneous injection of sputa, after he had failed in doing so by inoculation in the blood, Dr. Giles injected the sputa of a pneumonic patient beneath the skin of rabbits. We shall let Dr. Giles tell the results in his own words:—

"Feb. 7th. Took some of the freshly-ejected sputa of the remaining pneumonic case and mixed it by means of a spatula, with about an equal quantity of water, beating it until the glairiness was sufficiently broken to admit of the mixture passing through a large hypodermic needle. Of this mixture I injected about m. 5 into the pleural cavity of No. 1 rabbit, and the same quantity into the subcutaneous cellular tissue of the back of No. 2 rabbit. A few hours after the breathing of No. 1 had already become very rapid, and on holding the little animal against the ear, something much like a friction sound could be heard near the point at which the injection had been made. No. 2 appeared to be in its normal condition.

"Feb. 8th. No. 1 appears sluggish and ill this morning. Respiration excessively rapid, and its sound altered, though neither the normal nor the abnormal sounds were sufficiently like those heard in the human subject to enable one to call the latter tubular breathing. No. 2 appears about the same; there is no swelling at the point of injection. Evening—No. 1 evidently very ill. No. 2 appears less lively.

"Feb. 9th. This morning No. 1 was found dead, and No. 2 evidently ill, breathing very rapidly. Temperature, 103°. Necropsy on rabbit No. 1. The animal is well nourished and sleek. P.M. rigidity well marked. Chest—On dissecting back the skin a small extravasation of blood was found at the site of the puncture. Both pleuræ full of turbid fluid. Right lung (the side of the puncture)—Pleura, both parietal and visceral, covered with recent lymph. Point of puncture cannot be made out either on parietal pleura or lung. The lung is intensely congested throughout, and floats with difficulty. Left lung—No lymph on pleuræ, but both these and the organ itself deeply congested. Both lungs break down under very slight finger-pressure. Pericardium distended with a slightly turbid fluid. Heart—Right side full of dark-coloured fluid blood. Left side

black clots. *Abdomen*—Peritoneum, normal. Liver—Dark-coloured and congested. Kidneys—Medulla pale, cortex congested. Spleen—Natural size and consistence. Stomach healthy, contains partly digested food. Intestines healthy. Large bowel full of *fæces*. Bladder full of urine. High-coloured, acid reaction, no albumen. On examining the pleuritic fluid with the immersion lens, it was found to contain besides *leucocytes* multitudes of small rounded particles, non-granular, with fairly bright contour. They varied somewhat in size from about the  $\frac{1}{80}$  to  $\frac{1}{10}$  diameter of a red corpuscle—i.e., about  $\frac{1}{80.000}$  inch in diameter. The collected fluid was put aside in a small gallipot, and covered with a piece of glass. On examining this the next day (Feb. 10th) these fine dots were found to be collected into zooglœa-like masses, and the fluid contained in addition some larger and brighter particles reaching the size of about  $\frac{1}{30.000}$  inch round, and containing a central dot (nucleus). On the previous day no such nucleated particles had been observable. On the day after, the smaller sort were less numerous, and the day after that all had disappeared. The blood contained similar minute particles. At this stage of proceedings I was anxious to try if the fluids of the dead rabbit were also infective, but to my great annoyance the person from whom Dr. Mackenzie had obtained the rabbits would not let me have any more. On this account I had to make my further experiments with dogs instead of rabbits.

"Feb. 10th, morning. Second rabbit appears rather better, but is still breathing very rapidly. Temperature, 99°. Examined its blood, and found it contained great numbers of micrococcus-like particles exactly similar to those found in the serum from the pleura of rabbit No. 1. In one or two instances I found these collected into zooglœa-like masses, and—what was still more remarkable—there were also a number of the larger nucleated cells present quite identical with those found on the same day (the day after its death) in the serum that had been put aside from rabbit No. 1. To-day (10th) I injected 15 m. of the pleuritic fluid from rabbit No. 1 into the subcutaneous cellular tissue of the back of a healthy bitch of moderate size, the animal's temperature at the time being 102.1°. In the evening rabbit No. 2 appeared again worse, refusing to eat. The bitch appeared none the worse as yet beyond a slight effusion marking the point of injection. Temperature, 102.4°. Respiration, 36.

"Feb. 11th. Bitch appears fairly well except local swelling and

tenderness. Temperature, 102·8°. No micrococci to be found in blood. *Rabbit No. 2.*—Very sluggish this morning, and breathing with great rapidity. At 1.30 p.m. the animal was evidently dying, and its blood was found to swarm with micrococci, all three forms being present. It died at 2 30 p.m. An hour afterwards, having obtained the kind assistance of Dr. Haig, I made a necropsy as below:—Body in good condition, but coat rough and staring. Rigor mortis as yet undeveloped. No trace of the point of injection can be made out. On opening the chest a quantity of turbid fluid welled out from each pleura. The pericardium was also distended with a somewhat clearer fluid. *Pleuræ*—Both coated with recent lymph, which had caused extensive adhesions over both lungs. The cut bronchi exude a watery, frothy secretion. *Right lung*—Floats as a whole, lower part, upper lobe, and base consolidated almost throughout, but not in a uniform manner, the outer surface and section of the consolidated parts presenting a curious appearance, being mottled all over with airless, consolidated patches which, failing to collapse, stood out above the narrow, still crepitant interspaces. Hence the most solid parts even still floated. *Left lung*—Generally similar to right, but consolidation of base not so far advanced. *Heart*—On removal was found to be covered with a coating of lymph, which in places had caused adhesions. *Right cavities* full of dark fluid blood; the left nearly empty; no clots. *Peritoneum, liver, kidneys, spleen*, all normal. *Stomach* healthy, contained some half-digested food. *Intestines* natural; large bowel empty. *Bladder* contained some urine of acid reaction, which with nitric acid gave a doubtful indication of albumen. The blood and pleuritic fluid contained abundance of all three forms of organism. *Evening*—Dog restless; considerable local swelling. Temperature, 102°. It will, however, serve no purpose to follow the daily history of this animal further, as the experiment had a practically negative result. A large abscess formed on the site of the injection, which was opened on Feb. 13th, and gave vent to a quantity of foul stinking pus. The pus let out contained immense numbers of the smaller and some of the larger and nucleated bodies, and in addition swarmed with the *bacteria* usually found in decomposing pus; at no period was there any appearance of micrococci in the blood. As soon as the abscess was evacuated the bitch rapidly recovered."

Dr. Giles made some further experiments on dogs and a rat—the results of which, though for certain reasons not conclusive, tended clearly to prove that the sputum contained an infective agent.

## AN OUTBREAK OF ILLNESS CAUSED BY IMPURE WATER.

Early in the autumn of 1883 nearly 150 of the boys in the Royal Military School, Phoenix Park, suffered from severe diarrhoea, accompanied by gastric disturbances and feverish symptoms. Dr. W. Carte, who was in temporary medical charge of this institution—in which there are between 400 and 500 boys—suspected that the illness might have been caused by impure water. He accordingly had a sample submitted to me for analysis, which yielded the following results. One imperial gallon (70,000 grains), contained:—

	Grains.
Total solid matters, - - - - -	7·700
Including albuminoid ammonia, - - - - -	0·040
Saline ammonia, - - - - -	0·350
Nitrogen in nitrites and nitrates, - - - - -	traces
Chlorine, - - - - -	1·790

The water had not a bad odour, but it was very turbid. A microscopic examination of the sediment which the water deposited abundantly, revealed the presence of the following:—A large quantity of amorphous organic matter, numerous species of *Paramecia*, flagellate infusoria, diatoms, colourless fungi, conferva, and spores.

The water had a slightly yellow colour, due to the presence of peaty organic matter, and the residue which it left on being evaporated was very dark in colour, and on being strongly heated exhaled the well-known “burnt feather” odour indicative of the presence of highly nitrogenous substances.

The Royal Hibernian Military School is supplied with the Vartry water, which is distributed throughout the city of Dublin and the greater part of its suburbs. This water is derived from the drainage of granitic mountains in the county of Wicklow, and being impounded in a reservoir of great capacity, and from which all sources of pollution are cut off, the composition of this water is almost absolutely constant. The following shows its composition in the autumn of last year.

One imperial gallon (70,000 grains), contains:—

	Grains.
Total solid matters, - - - - -	4·360
Including albuminoid ammonia, - - - - -	0·005
Saline ammonia, - - - - -	0·001
Nitrogen in nitrites and nitrates, - - - - -	traces
Phosphoric acid, - - - - -	faint trace
Chlorine - - - - -	0·966



Oxygen absorbed from permanganate of potassium solution :—

After 15 minutes at 80°F.,	-	-	-	-	0.09
After 4 hours,	-	-	-	-	0.150

Hardness :—

Before being boiled,	-	-	-	-	1.4°
After being boiled,	-	-	-	-	0.8°

The microscopic examination was satisfactory.

Now, it is evident that the difference between the water above described and that in use in the school, was so great as to put out of consideration the possibility of the Vartry water having been contaminated in the main pipes before delivery at the school. The total solids in the water at the school was nearly twice as great as the average amount present in the normal pipe water, whilst the saline ammonia in the former was 350 times greater.

I inspected the water arrangements in the school, with the view of ascertaining whether or not the pollution of the water was the result of a local cause. I found that the water was received into a large tank; which was often inspected, and which, together with surroundings, appeared to be kept in a cleanly state. From inquiries which I made, and from knowledge derived from the results of analyses, made by me many years ago of water used at this institution, I have come to the conclusion that the very foul water sent to me by Dr. Carte, which had been taken from the tank, was derived wholly, or in part, from a pond in the neighbourhood of the school. That the water analysed for Dr. Carte was Dublin pipe water, was out of the question. Its solid constituents consisted, in part, of calcium carbonate, from which the Vartry water is free. It was not Vartry water which had become foul by, for example, a dead animal decomposing in the tank, or a fish decomposing in water pipes; for such accidents would not introduce calcium carbonate into the water. In some specimens of water from the school subsequently submitted for analysis by the Board of Public Works, the quantity of lime salts was very large.

The inferences fairly deducible from the foregoing facts are as follows :—

1. That the water used in the Royal Hibernian Military School, in the autumn of 1883, was not always the Vartry, or Dublin pipe, water, but was procured from a local source, probably from the pond situated in the school-grounds.
2. That the water used on some occasions by the boys dwelling

in the school, was extremely polluted with organic matter and low forms of life.

3. That the illness in the school was of a non-specific character, but though not grave as to its symptoms, it was serious as to its extent.

4. That the decomposing organic matter in the water caused the diarrhoea, and other symptoms of the illness, was rendered all the more probable—(1) because no other local cause could be ascertained or was probable; (2) because there was at that time in Dublin and its environs less diarrhoeal disease than is usual at that particular season.

5. That the facts do not favour the pythogenic theory of the origin of enteric fever, for here was a water in which the amount of decomposing organic matter was enormous, and yet the outbreak of disease which it caused was not enteric fever. I have often found that water which was, with some show of reason, regarded as the cause or vehicle of an outbreak of typhoid fever, was by no means highly polluted. On the other hand, I have known very impure water to be constantly used by families without apparently causing any decided illness. The greater my knowledge of water as a carrier of disease becomes, the more inclined I am to the belief that something more than mere decomposing organic matter—in fact, more than the fæces of healthy persons—is required to be present in water (or other liquids), in order to render it capable of developing enteric fever in those who drink it.

#### NAVAL HYGIENE.

The *Journal de Médecine de Paris*, for December, 1883, contains an interesting article on the above subject. It seems that the average mortality in the army, both in France and Algeria, is only 8·65 per 1,000 persons living.

The average death-rate in the naval service was, all stations included, no less than 70·7 per 1,000.

The above figures refer to the years 1873-80 inclusive.

Whilst the annual mortality amongst the officers in the army is 6·81 per 1,000, that amongst naval officers is 99 per 1,000.

The deaths of disabled soldiers and sailors in hospitals have been taken account of in the foregoing calculation. These figures seem to be almost incredible. The army bills of mortality are unusually light, whilst the mortality in the navy is so enormous as to be only, in the British navy, comparable with the days in the last century.

when our navy was decimated by scurvy. There must be something very "rotten in the state" of the French navy if every tenth officer perishes annually.

The following is the rate of mortality in the navy at different stations :—The Island of Réunion, 20·9 per 1,000 men; Martinique, 32·2; Guadaloupe, 34·5; Cochín-China, 97; and Senegal, 140·6 per 1,000.

Although climate appears to be a very important factor in determining the rate of mortality in the French navy, yet much more serious must be the hygienic defects of the ships in which the sailors of France die at the rate of 70 out of every 1,000 men on board of them. In the British military services the health of the navy is excellent, although a large proportion of our sailors are stationed in unhealthy regions, such as the West Coast of Africa, the West Indies, &c. There must surely be serious defects on board the war vessels of France. Externally they appear to be neat and trim, and their armaments and decks have the appearance of being well kept. Are the cabins of the officers and the berths of the seamen equally clean and tidy? Have the denizens of these floating castles ample cubic space? It is more than probable that these questions cannot be answered favourably. It has often been remarked that French vessels invariably carry more men than do English vessels of the same size. It is probable that the overcrowding of the war vessels of France is the principal cause of a mortality on board of them, which, if it were not authoritatively stated in a technical journal of the first rank, would hardly be credited.

In the "Proceedings of the Naval Medical Society," No. 6, Vol. I.,\* there appears an interesting paper entitled, "Thirty years of Sanitary Progress in the Navy: its Present Needs." It is the annual address of the President, Dr. Albert L. Gihon, U. S. N., and was delivered in the Museum of Hygiene, Washington. The description of an American man-of-war, in 1855, is described in graphic terms. She was manned by a motley crew of Americans, Englishmen, Irishmen, Northmen, and "Dagos," the Americans being in a minority. The vessel sailed from New York on a cruise which was to be of three years' duration; some of the crew had only a short time returned from a three years' voyage, but had managed in a brief period to get rid of their hard-earned pay to the "land sharks." All were in debt, and for want of sufficient funds the great majority

\* Washington: Judd and Detweiler, Printers, 1884.

were badly provided with clothes, &c. The vessel was a large sloop, and she had a reputation for nautical beauty and sailing qualities. Dr. Gihon says of her internal parts:—"There was no pretence to ventilation, except by six-inch air ports, which were closed with 'all hands up anchor,' wind-sails, which were of no use in calm weather, and could not be set if it blew, and hatchways housed over when it rained. In the dim mephitic twilight of the berth-deck, the crew huddled together in bad weather, and at night they swung, when both watches were below, in one seething, sweltering, fœtid, human mass. Only they who have gone upon an old-time berth-deck, toward the close of the mid-watch, can realise the horrible filth-polluted atmosphere, which was there breathed by human beings; fouled by human emanations; fouled by the bilgevents that poured the noxious vapours of the holds and limbers upon the deck; fouled by the damp, unwashed clothing in which men lived week after week; fouled by the heavy moisture of the decks, daily deluged in the name of cleanliness.

"The wretched herd, who were thus gathered from the purlieus of Water-street, and North-street, and South-street, who at night were kennelled worse than dogs, by day fed like them—crouching on their haunches around greasy mess-cloths, cutting with jack-knives, or pulling to pieces with grimy fingers the chunks of 'salt horse' and 'duff,' which made their daily fare, and which later in the cruise were both spoiled and scanty. During long passages, when officers' messes were reduced to the navy ration—canned and hermetically sealed supplies being then rare and expensive—they shared with the crew the ship's bread, in which it was a pastime to wager the number of weevils and worms per square inch; salt beef, which was termed *horse* from its fibre, and *mahogany* from its density and colour; pork, softer in texture and green from putrefaction; rice, which was mouldy; and beans, which either could not be boiled soft or which had surrendered their starchy contents to feed and house the myriad insects which peopled them. If wood and water lasted, these could be cooked, but often there was neither enough of the one nor the other to allow more than one cooked meal a day. Understand, I am reading from leaves of my own experience—an experience of an allowance of a quart of water a day for cooking, drinking, and washing, and that which sometimes had to be strained through closed teeth, with eyes shut, and nose held—an experience which made pickles and molasses luxuries, and 'swanky' a very nectar."

After completing his description of this sloop and her wretched crew, Dr. Gihon mentions the case of a vessel in which, during a cruise of 30 months, the number of the sick out of a crew of 200, officers and men, amounted to from 20 to 35 daily, the deaths numbering altogether 28. Here is another description of an unhealthy ship and her crew :—

“ After a long and stormy passage through the Indian Ocean, the *Levant* arrived at Anjer Roads, in Java, on the 25th of March, 1856, when the heat was intense. Her crew were enfeebled, and many of them exhibited evidences of the scorbutic cachexia in consequence of the deteriorated and unsuitable character of their food, which the insufficient daily issue of wood did not allow to be properly cooked; of their short allowance of water, which was impure; of their confinement on board ship since the previous October, when she went into commission; and of their unusually arduous labours in the high southern latitudes, where they were exposed for several weeks to a continuance of cold, damp, and rainy weather. Notwithstanding their condition they were laboriously employed, working from daylight until dark for two days, getting on board wood which was wet and green, and water white from organic impurities, and which had run through a series of dirty wooden troughs into an equally dirty reservoir. The vessel sailed on the evening of the third day, and within a few hours, that night, twenty-four cases of *cholera communis* were reported, two of the lieutenants among the number. Few of these men were ever able afterward to do their duty properly. As events proved, this was their preparation for a tedious passage of *forty-six days* across the China Sea to Hong Kong, a distance of only twelve hundred miles, but entirely within the tropics (latitude 8° south to 20° north), at the season of the change of monsoons, when the high temperature is not moderated by any breeze, nor the scorching heat of the tropical sun scarcely ever shielded by a clouded sky, and when the glassy surface of the sea reflects and concentrates the heat upon the ship, whose black sides greedily absorb it. The deck-load of freshly-cut green wood added an unwholesome moisture to the atmosphere, and the unfiltered water, with which the tanks had been filled, preferred for cheapness, soon decomposed and became offensive and unpalatable. The men had gorged themselves with oranges, mangosteens, and other fruit during their short stay at Anjer; but the supply of chickens, vegetables, and fruit which they brought away with them was soon exhausted, and they were again fed with

the mahogany-like 'salt horse,' green fat pork, worm-eaten bread, weeviled beans, and musty rice, which they had to eat in the chilly regions of the Southern Ocean. The paltry interval of three days in ninety-seven had brought no relief to their jaded and debilitated bodies; but they were occupied with the still severer labour of working ship for every 'cat's-paw,' under the additional morbid influence of a vertical tropical sun. Most of the intractable cases of diarrhoea and dysentery, and the large majority of deaths during the cruise, can be directly traced to this period. The asthenic habit of constitution, which rendered these complaints fatal, was evidently fixed upon them by the various concurrent circumstances in operation thus early in the cruise. After her arrival on the station, this vessel did not, like the rest of the squadron, employ a Chinese 'fast-boat,' and the results of this and other violations of hygienic mandates were plainly shown in a sick-list of *thirteen hundred and forty-five* cases during the thirty months of her commission. Nor were the sickness and inefficiency of the crew the only consequences of this utter disregard of sanitary laws. One of the officers, who inspected her at the end of her cruise, told me that she was the most unclean and ill-conditioned vessel he had ever seen."

Dr. Gihon, after these gloomy descriptions of the vessels of a period not long gone by, gives us companion pictures of brighter colours. Referring to a ship just returned from a three years' cruise, a part of which was off the Coast of Africa, he says there was "among her two hundred and twenty men and officers but a single death from disease, an average daily sick-list of only 4.22, including trivialties that formerly were not reported, and only twelve men invalided, five of these having been sent out of the ship before she left the United States. Her berth-deck, bright with light from large rectangular ports, was clean and dry, having been covered with shellac, and easily and speedily cleansed. Her comfortably-clothed men were well fed with substantial and abundant food, which they ate decently, sitting on benches at clean tables. Her prison-brig was clean from mere disuse, though its very cleanliness were enough to tempt a skulker."

"Satisfactory as the *Galena's* condition, another vessel, the *Trenton*, which I inspected a few weeks later, at the beginning of her cruise, represents still further progress in Sanitary prevision. Here ventilation by aspiration has been provided for, tubes communicating with every apartment and store-room and *cul-de-sac*, from which vitiated air is drawn to be discharged in the open air of

the spar-deck, with the successful practical result that, notwithstanding the necessarily crowded condition of the berth-deck at the close of the first watch, all but a quarter-watch being below, not a trace of animal odour was perceptible to the senses. Illumination was obtained by day by large unobstructed ports, and by night by electric lights, which were placed in every apartment, store-room, and passage-way. Where there are light and fresh air and dryness at the outset of a cruise, there will be neither dirt nor vermin nor disease at its close; and the effort to exclude moisture on board this ship is not confined to shellacking the berth-deck, but a capital steam drying-room has been placed at the heel of the bowsprit, where men's clothing, damp towels, and other wet fabrics are at once dried.

"Latrines and bath- and wash-rooms under the top-gallant fore-castle; mess-tables and benches; mess-lockers and clothes-lockers; a place where, and opportunities when, men can read and write; and frequent daily liberty to go on shore, if not already common to every vessel, are yet now so generally the concomitants of the well-officered and well-disciplined and efficient ship, that ere long their absence will be accounted a fault."

**THE TYPHOID FEVER OF AMERICA—ITS NATURE, CAUSES,  
AND PREVENTION.**

The Board of Health of Iowa have printed and circulated a paper read before them last November, by Dr. R. J. Farquharson, on "Typhoid Fever: its Nature, Causes, and Prevention." Dr. Farquharson, in compiling the vital statistics of the State, was led to notice the resemblance in many particulars between the periodic or malarial fevers (ague, remittent, and typho-malarial), and "the so-called typhoid fevers." After due consideration he arrived at the conclusion that typhoid fever, in the United States, differs ætiologically at least from "the typhoid fever of the English counties, the fæcal fever of Budd, and the pythogenic fever of Murchison." It is not clear what Dr. Farquharson means by the typhoid of the English counties as something distinct from Budd's fæcal and Murchison's pythogenic fever. There is no distinction clinically between the fever which Budd and Murchison have described, these authors simply differing in their views as to the origin of the disease.

Dr. Farquharson commences by seeking to demolish England's claim to the honour of having clearly demonstrated the specific

differences between typhus and typhoid fevers. He states that from 1842 to 1845, whilst a student at Philadelphia, he often heard Dr. Gerhard, a pupil of Louis, explain the characteristic differences between the two diseases, whilst Jenner's "*Researches of the Pathology of Typhoid Fever*" was not published till from 1849 to 1851. It must be admitted that from an early period in this century the differences between typhus and typhoid fevers began gradually but surely to be discovered and described not by Louis alone, in France, but by Cruveilhier, Andral, Petit and Serres, and Bretonneau. In 1836 Dr. Perry published a paper, in which he stated that typhoid fever was a distinct disease; and two years later Dr. Stewart pointed out essential differences between typhus and typhoid fever. In the thirty-third volume of the "*Medico-Chirurgical Transactions*, 1850," Sir William Jenner published his exhaustive paper on "*The Identity, or Non-Identity of the Specific Cause of Typhoid, Typhus, and Relapsing Fevers*," which clearly established the identity of each of these diseases. In 1856 Wunderlich, in his "*Handbook of Pathology and Therapeutics* (Stuttgart)," enters at great length into the subject of the duality of typhus and typhoid fever, and the question may now be considered as finally settled. It is clear that Dr. Farquharson has not very carefully studied the works of the British writers on typhoid fever, otherwise he would have seen that no such claim as he states has been made on the part of these countries. It will, however, be conceded by all impartial writers, that the contributions of British authors to the pathology and ætiology of typhoid fever exceed those of any other nationality.

Dr. Farquharson denies that typhoid fever is contagious, and he seems to consider that the contagiousness of the disease is one of the points most insisted upon in Budd's theory. Now, it is well known that few, if any, persons believe in the direct contagiousness of the disease—that is, that it is propagated from person to person in the same way that typhus fever, scarlet fever, measles, and small-pox are. Dr. Farquharson proceeds to quote American authorities in support of this view as to the non-contagious nature of typhoid fever. He states that Dr. Pinckney Thompson, President of the Kentucky State Board of Health, says:—

"As I study the literature of the ætiology of typhoid fever, coupled with an experience in the practice of medicine for thirty years, I am forced to the conclusion that typhoid fever does originate from other causes than the contagion of a previous case.



“Dr. Thompson says that typhoid fever is the greatest scourge to which *farmers* are subjected. He gives numerous instances of the spontaneous origin of the disease, and these, in a sparsely settled country, where previous cases would not by any possibility escape detection. He also quotes approvingly from the Reports of the Massachusetts Board of Health the account of the production of typhoid fever from the drying of a mill pond, and the conclusion of that Board that typhoid fever might be produced in three ways:—1. By foul water. 2. By foul air. 3. By emanations from the earth, occurring most frequently in the autumn and seasons of drought (*i.e.*, by malaria). Dr. Thompson has no doubt of the origin of typhoid fever from decayed wood, and gives the following pregnant instance:—A small army (Confederate) was encamped at Valley Mountain, Randolph County, West Virginia. Two regiments occupied all of the cleared land, while the rest of the command had to encamp in an adjoining forest. In the so-called cleared land, the trees had been belted, and had for years been slowly rotting. Many of them in various stages of decay bestrewed the ground. Thirty per cent. of one of the regiments on that cleared ground and twenty-five of the other had typhoid fever, while of those camped in the forest not more than five per cent. were attacked. They all had substantially the same water and food, and the fever commenced its ravages before there was time for soil contamination.”

Dr. Farquharson concludes his address as follows:—

“1. That typhoid fever in this country is not contagious, and not being placed in the same category with small-pox, scarlet fever, diphtheria, &c., does not need the minute directions for isolation, disinfection, destruction of clothing or fomites, &c., so eminently proper in the latter diseases. Such directions, in regard to a disease so common as typhoid fever, do more harm than good, and in this way: they are so minute and particular as to most people to seem impracticable, they are therefore neglected, and no ill consequences following, they are confirmed in their opinion (which in this case happens to be correct), that typhoid fever is not contagious, thus bringing contempt, more or less, for all sanitary regulations.

“It may be remarked, can nothing be done to prevent typhoid fever? And it must be answered that in our present condition of knowledge as to the causes of that disease, but little can be done, and that in a general way. Our farmers would not, if they could,

do away with the exuberant richness of the virgin soil, nor diminish the almost tropical temperature of our summers, yet these are the prime factors in the production of typhoid fever. Anyone wishing to avoid this fever should look to the following points:—

“ 1. As to water, to see that it is as pure as possible. If from a cistern, that it is well built and frequently cleaned. If from a well, that it is walled up with brick or stone, laid in cement, and is so situated that it gets no surface or soil-water contamination; that it has no wooden curb to rot and furnish a common cause of the fever (*aqua-malaria*).

“ 2. The house should be well ventilated, not built, if possible, over a marshy spot, or one with a clay subsoil. It should have a cellar, either naturally dry or made so by efficient drainage, and this cellar should never be used as a store-room for vegetables, and if this is unavoidable, these should never be allowed to rot.

“ 3. No slop-water, or indeed any kind of water, should be thrown upon the ground near the home. All garbage, if not consumed by pigs, should be frequently removed, or better still, especially in towns and villages, burned up in the kitchen fire.

“ 4. If drains exist, and they are exceedingly necessary to any well-ordered household, they should receive constant care and attention, that they have no leaks nor obstructions, and that they are as frequently and as thoroughly flooded as the water supply of the place will admit. Though *fæces* do not here play the important part in the production of typhoid fever as they appear to do in England, yet on general hygienic principles no accumulation of them should be allowed to take place, but where privies, and, still worse, cess-pools exist, they should be kept from putrefaction by the abundant use of that good and cheap disinfectant, *copperas*.

“ 5. In cases of sickness from typhoid fever in a family, isolation of the patient, so far as possible, is to be recommended, not from any fear of contagion, but to afford that quiet, and that abundant supply of fresh air so necessary in the treatment of all fevers. The stools should be disinfected and deodorised so soon as passed, not for fear of contagion, but upon the general principles of decency, and increased comfort to the patient, and all the household.”

#### IS BUTTERINE AS WHOLESOME A FOOD AS BUTTER?

The manufacture of factitious butter is now carried on to an enormous extent in the United States, and, but not so largely, in Holland and some other European States, including the United

Kingdom. The question of regulating the manufacture and subjecting it to certain restrictions, and even of prohibiting it altogether, has recently been discussed in the newspaper press of the United States, and has been considered by a Special Committee of Congress. Much evidence for and against the use of butterine, oleomargarine, &c., has been given; and it seems that the United States Congress are not disposed to interfere with the manufacture of the so-called "bosh butter."

In the United Kingdom "bosh butter" may be legally sold, provided that it is not termed butter; but there is little doubt as to its extensive sale under the name of butter. As a proof of this, it may be stated that in the month of May, 1884, eleven persons were convicted in the city of Dublin for selling as butter an article which was almost wholly composed of fats foreign to butter.

The articles sold under the name of oleomargarine, butterine, &c., are composed of suet or lard, or both. These fats are converted into a kind of pulp, and are mixed with from a mere trace of pure butter to a substantial proportion of that article. In the treatment of the animal fats used in making butterine, chemical agents, such as dilute acids, are employed; but the statement that various kinds of objectionable and even poisonous chemicals, and fats derived from horses and other objectionable sources, are generally used, has not been substantiated.

That lard and suet are largely consumed as food by man is of course admitted, but taken, as they usually are, in the form of pork, bacon, beef, and mutton, they are subjected to a more or less thorough cooking. It is fairly open to question whether or not the constant use of raw or nearly raw lard and suet, as articles of food, is a perfectly safe gastronomic exercise. There is, however, one class of fatty substances which nature has clearly designed may be consumed uncooked—namely, the fats of milk, or butter. It is provable that cooking injures rather than promotes the digestibility of butter. No doubt there are many persons whose stomachs and duodenums are capable of easily digesting any edible substance; but a certain proportion of people—especially that pitiable class, the dyspeptics—find that heated butter often disagrees with them. How few are there who cannot enjoy and digest a thick stratum of nice fresh butter reposing upon a slice of bread; whilst, on the contrary, very many, especially those well up in years, are quite unable to digest hot buttered toast! The heating of butter in

pastry is the chief cause of the well-known tendency which that article has to cause heartburn, waterbrash, &c.

It is not unreasonable to apprehend that butterine and oleomargarine, which are prepared from fats that have not been subjected to a higher temperature than 36° Cent., are hardly fit food for man. Internal parasites are much more likely to be found in the lean part of flesh than in its fats; still, as it is possible that they, or the more minute germs of disease, might find their way into the adipose tissue, it seems somewhat unsafe to consume imperfectly animal food such as butterine is. It requires a temperature of 100° Cent. to destroy microzymes; and to nothing like this temperature is butterine subjected during the process of its manufacture.

The chemical composition of butter and butterine shows that the articles are, in essential particulars, very dissimilar. In butterine fats we find about 22 per cent. of the fat termed palmatin, 47 per cent. of stearin fat, 30 per cent. of olein, and about  $\frac{1}{2}$  per cent. of the rarer fats, butyrin, caproin, and capryllin. In butter fats we find about 42 per cent. of olein, 50 per cent. of palmatin and stearin, and from 7 to 8 per cent. of butyrin, caproin, and capryllin. Palmatin, olein, and stearin are most destitute of flavour and odour, and the peculiar fragrance and pleasant flavour of good butter are due to its 7 or 8 per cent. of butyrin. We are quite satisfied, too, that the digestibility and some of the other properties of butter are largely dependent on these rarer fats, and we are further of opinion that the structure of butter fat, taken as a whole, is different from that of the dense fats of suet, tallow, lard, &c. Until the oleomargarine manufacture can procure a substitute for butter in which the amount of butyrin, &c., is at least 5 per cent., we cannot but think that the sale of the spurious article should be controlled by very stringent resolutions. We are at a loss to know why it should, under any name, be permitted to be sold as a substitute for butter, when it is almost utterly wanting in the characteristic principles of the latter. It is illegal to sell actually under the name of butter, but a stuff which simulates the appearance of butter will, to the immense majority of purchasers, appear to be its equivalent in every other respect. If the people desire to eat tallow and lard, let these articles be sold in some form in which they cannot be palmed off as true butter.

## THE DWELLINGS OF THE PEOPLE IN NEW YORK.

In Dublin three-fifths of the families occupy only seven out of every 24 houses in the city, affording only one and a-half rooms on the average per family. According to the *Sanitarian* (New York, February, 1882), 32,096 out of the 78,368 dwellings of New York are each occupied by a single family. In 10,314 houses the minimum number of families is two; in 16,992 houses, one family occupies each floor; and in 18,966 houses, there are at least two families per floor. The population of New York was estimated to be 1,326,000, or an average of 17 persons per house. The editor considers that there is great overcrowding in this by far the largest city in the New World.

In 1883 the total number of deaths in New York was 33,982, or 3,942 less than in 1882. The mortality was at the rate of 25.62 per 1,000 persons living—a high rate of mortality when it is considered that there is an enormous immigration into New York of persons of the ages of least mortality. The zymotic death-rate is exceedingly high, 9,252 deaths from zymotics having occurred in 1883 out of a total, from all causes, of 33,982; whilst in 1882, out of 37,924 deaths from all causes, 12,422 were the result of zymotic maladies, chiefly diarrhoea, scarlet fever, and diphtheria. The latter disease, which causes so few deaths in Dublin, killed in New York, 1,525 persons in 1882, and 909 in 1883.

Brooklyn, the sister city of New York, but having a much less density of population, had a death-rate in 1883 of only 22.16 per 1,000.

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DANGERS OF CORROSIVE SUBLIMATE AS AN ANTISEPTIC DRESSING.

In an article by Dr. Reichel, of Breslau, copied into the *St. Louis Courier of Medicine* from the *Berlin. klin. Woch.*, he describes a case of general erythema caused by sublimate dressing. A man had been operated on for relief of genu valgum; the leg from foot to pubes was enveloped in sublimate gauze. On the ninth day burning and itching of the limb necessitated the removal of the gauze. The leg was oedematous, and covered with a papulo-vesicular eczema. A general erythema was now developed; the whole body, except the face and neck, was thickly covered with small red spots. The general health was good; no salivation; temperature raised. Salicylic dressing was substituted, and on same day temperature became normal; and in four days after the whole rash was gone.

## PART IV.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ACADEMY OF MEDICINE IN IRELAND.

President—J. T. BANKS, M.D.

General Secretary—W. THOMSON, M.D.

#### SURGICAL SECTION.

President—WILLIAM IRELAND WHEELER, M.D., President, R.C.S.I.

Sectional Secretary—WILLIAM STOKES, F.R.C.S.I.

*Friday, March 7, 1884.*

The PRESIDENT in the Chair.

#### *Abdominal Tumour.*

MR. BARTON read a paper on a remarkable case of abdominal tumour. T. A., aged twenty-five, an engine-fitter, was admitted into the Adelaide Hospital on 27th November last, suffering from a constant pain in the abdomen and painful and constant micturition. On examination a tumour was found in the left inguinal region. It was hard, nodulated, defined closely to the left side, but somewhat undefined towards the right mesial line. The sigmoid flexure could be traced to the tumour, which seemed to be attached to it. A history of three years of suffering was given, during which the rigors of intestinal irritation and obstruction and bladder irritation gradually but steadily increased in severity. On December 17 Mr. Barton operated for the removal of the tumour. An incision about three inches long was made in the linea alba, just above the pubes. Through this he quickly obtained room to explore the pelvis, and ascertained that the tumour had no anterior attachment to the bone. The peritoneum was then opened, and the tumour was found to surround and grow from the sigmoid flexure of the colon. The tumour was partly excised, and the remaining portion firmly ligatured, the ligature being brought out of the wound. The patient recovered, the artificial anus being fully established on the fifth day. The tumour sloughed out. One month after the operation the patient was able to be up in an arm-chair, and expressed himself much better than before the operation, on account

of the relief from the irritation of the bladder and his complete restoration to appetite and sound sleep. Now, three months after the operation, there was no sign of a return of the disease, which was carcinoma or alveolar sarcoma.

MR. SCOTT, who made sections of the tumour, said it was composed of epithelial-like cells, had a carcinomatous appearance, and in that view would be a secondary growth, but no primary growth was discovered, so that in the alternative he regarded it as an alveolar sarcoma, in which the cells were of an epithelial character.

DR. HENRY KENNEDY observed that statistics showed the sigmoid flexure of the colon to be the most common part affected. The relief of the urinary symptoms by the treatment was remarkable.

MR. W. THORNLEY STOKER would make the incision not in the linea alba, as Mr. Barton did, but in the left semilunar line, not only from the vicinity of the line to the tumour, but also because of less close attachment in that situation than in the other.

MR. BARTON, in reply, confessed to a strong prejudice in favour of making the incision in the linea alba as giving least trouble, and as the lower part, when he got down to the pubes, led him into the areolar tissue, for which he aimed.

#### *Excision of the Tongue for Epithelioma.*

MR. KENDAL FRANKS read a paper on a case of excision of the entire tongue, the left tonsil, and part of the velum palati for epithelioma. In the operation which he performed in January last he divided the cheek from the left angle of the mouth to the anterior border of the masseter muscle to obtain room. The attachments of the tongue to the floor of the mouth and to the lower jaw were divided by means of a galvano-cautery loop without hæmorrhage. A supra-hyoid puncture was then made into the floor of the mouth, and a galvano-cautery loop introduced through it was made to encircle the organ as far back as possible, so as to divide the tongue at its base. No hæmorrhage followed this division. The left tonsil, anterior pillar of the fauces, the greater portion of the left half of the palate, were removed with Paquelin's thermo-cautery. A little bleeding from a palatal twig had to be arrested. On the 19th of February a hard and diseased gland was removed from behind the angle of the jaw, and had to be dissected off the internal jugular vein for about an inch and a half. This wound was quite healed in a few days. The mouth healed rapidly, except for a small piece far back on the left side of the epiglottis extending forwards to the level of the tonsil, which progressed slowly, and is not yet cicatrised. The pain, which before operation was intense, has disappeared, and the patient, though weak and disinclined to leave his bed, is quite comfortable. The electrical apparatus employed consisted of three storage batteries devised by Mr. George Prescott of Dublin.

DR. ASHE's experience led him to approve of the thermo-cautery scissors as the most satisfactory instrument for removing the tongue in the easiest manner and without hæmorrhage.

DR. WARREN approved of Mr. Franks's mode of operation as superior to all others. It was perfectly bloodless and the tissues were cut through instantaneously. To him the *ecraseur* seemed a method of slow torture. On account of the extent of the disease in the present case a free incision in the cheek became necessary.

The PRESIDENT held that where the disease was extensive, and even where it was certain to return, the best course was operation, as the return of the disease, though fatal, would make death less painful. All the patients he operated on were placed in the recumbent position and under the influence of an anæsthetic. The adoption of M'Ewen's tracheal tubes obviated the danger of hæmorrhage, and allowed the administration of an anæsthetic. He always used the thermo-cautery scissors, as the cold or unheated blade, passing beneath the part to be severed, helped to lift and support it towards the heated blade. In some of his operations he had secondary hæmorrhage, which was prevented since adopting the plan of not having the scissors quite so hot as before during the transverse cutting. He never passed a ligature through the tongue, but seized it with a forceps invented for the purpose by Charrière. He usually slit the cheek—a procedure which he accredited to Mr. Colles. To the galvanic wire *ecraseur* he objected, as it was impossible to tell whether the diseased situations were not merely cut into instead of being eradicated, and also because the battery for heating the wire could not be depended on. He agreed in condemning the *ecraseur*.

MR. THOMSON, speaking from his experience of the thermo-cautery, preferred the hot knife or the wire to either the ligature or the ordinary *ecraseur*. With the hot knife, should any portion of tissue remain infiltrated with disease, there was the ability to go further with the operation at once, which was not so with the *ecraseur*.

MR. STOKES, having read a communication before one of the London societies on the subject of excision of the tongue by the *ecraseur*, was glad to find many English *confrères* endorsed his views. In a record of 12 cases there was not a single one of secondary hæmorrhage, and deaths were much rarer after the *ecraseur* than any of the cutting operations or by the cautery. The absence of moaning and groaning during the operation was remarkable. Sir James Paget had drawn particular attention to the operation as practical and painless, sensibility being destroyed by pressure on the tongue. Therefore, though the operation was prolonged, the term "slow torture" was inapplicable. Statistics proved it to be safer than any other, and that after it secondary hæmorrhage was extremely rare. Celerity in dividing the tissues he did not consider an advantage, as where they were slowly divided there was less chance of



secondary hæmorrhage—a disastrous sequela. Division of the cheek was recommended long before Mr. Colles was known as a distinguished surgeon. An important aid was a traction ligature of strong silk through the base of the tongue to draw it forward and ligature the bleeding vessel if secondary hæmorrhage ensued.

MR. W. THORNLEY STOKER condemned the use of either the ligature or the *ecraseur* as methods worthy only of the middle age of surgery. The small proportion of fatal results after the *ecraseur* was due to the fact that of late years its use was confined to cases which would have had a favourable termination whatever means were adopted.

MR. ORMSBY could not understand the sense of such language as applied to the operation with the *ecraseur*. He had never used anything else but the wire *ecraseur* for the removal of the tongue in his operations, and in none did it appear to deserve such sweeping condemnation, and his experience was that of the entire surgical staff of the Meath Hospital. He concurred with Mr. Stokes that removal by the *ecraseur* was not so painful as was supposed by those who had not performed the operation, and was less likely to be followed by secondary hæmorrhage than that advocated by Mr. Franks. The propriety of removing the tongue affected with cancer was doubtful, as giving the patient false hopes, the disease being certain to return.

MR. FRANKS, in reply, contended that the instrument which would work most quickly was the great desideratum.

#### *Carbolic Treatment.*

DR. CAHILL, in his paper on carbolic treatment, claimed that antisepticism was superfluous, as fermentation never occurred in the vital fluids—blood, pus, serum, and lymph—until they died, and when once dead they should be removed. Dead contact, known as foreign body, killed them. He traced an analogy between blood and pus, in that both die in the largest containing vessels first, and that dead substance introduced into either surrounds itself with a zone of dead material—for instance, dead bone, in pus. He attempted to prove that air was a foreign body by quoting the phenomena of canalisation, and in other ways. He deprecated the system of classing a large number of drugs under the heading “Antiseptics,” and thought each substance should be regarded on its own merits, claiming that, although antisepticism was useless, the carbolic treatment was highly valuable in wounds and sores of a strongly inflammatory tendency, as devitalising or suspending vital processes in the tissue elements. In support of this view he instanced the effect of the spray on the hands of operators. Carbolic acid in preventing supuration round sloughs (as adduced by Mr. Cheyne) was partly due to the same principle and partly to that property of carbolic acid by which it promotes the absorbent powers of granulation tissue.

MR. THOMSON pointed out that Lister was by no means confined to the use of carbolic acid in his treatment, but used perchloride of mercury, eucalyptus, thymol, &c. He dissented from Dr. Cahill's conclusions, and said that Lister's system had the effect of reducing the death-rate, and practically wiping out in surgical practice pyæmia and septicæmia.

MR. W. THORNLEY STOKER thought Dr. Cahill's point was to give a new explanation of the way in which the effects ascribed to Listerism were produced.

DR. CAHILL said he did not attack carbolic acid, but Listerism—carbolic acid being in proper cases a very valuable drug. He quarrelled with Lister for using it indiscriminately in all cases, and thought Lister had done a great deal of harm by introducing antiseptic surgery. No doubt Lister used thymol, eucalyptus, &c., but he had gone back to carbolic acid, as mentioned in "Cheyne's Surgery," which, according to Lister himself, was the best source of information as to his system.

The Section adjourned.

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#### MEDICAL SECTION.

President—WILLIAM MOORE, M.D., President, K.Q.C.P.

Sectional Secretary—A. N. MONTGOMERY, M.K.Q.C.P.

*Friday, April 18, 1884.*

DR. HENRY KENNEDY in the Chair.

#### *Ætiology of Climatic Fevers in India.*

DR. J. W. MOORE, acting as Honorary Secretary in the absence of Dr. Montgomery, read an abstract of Surgeon-Major Gore's paper, which was before the Section *in extenso* at the previous meeting, when, owing to the lateness of the hour, the discussion was adjourned. Surgeon-Major Gore showed that the common climatic fevers of the Kumaon Hill ranges of North-western Bengal, presented themselves under two very distinct forms—namely, as intermittents and remittents. He disputed the doctrine held by some that remittent fevers were not to be met with in India as distinct from enteric fever, and quoted briefly a description of the severe epidemic of malarial fever which prevailed in the neighbouring North-western Provinces in 1879, which differed in no respect from that met with in many parts of Lower Bengal. Having alluded to the aqua-malarial fevers of the mountain regions of North America, as described by Waggoner and Smart, he referred to the observations of Macnamara and Walker on the presence of malarial fevers in the hills in India, and to the great varieties in the degree and

severity of the types of malarial fever which often obscured the diagnosis between malarial and enteric fevers. He showed how malarial fevers varied in intensity and duration according to the dose of the poison, exposure to intense heat, individual peculiarities of constitution, different altitudes, the causes of scurvy, or acquired anæmia from a previous residence in the plains, giving examples from the records of the 30th regiment. At the same time he pointed out how the malarial fever might ascend, and in how many different ways it might be taken into the system, and how the quinine test might be vitiated by a variety of circumstances, and what therapeutical combinations were necessary to render it effective, alluding finally to those congestive remittents caused by an excessive dose of the poison on the nervous system or blood so altered from the natural standard as not to be amenable to any therapeutic combination which might be administered to avert a fatal termination.

The CHAIRMAN confessed that medical men in this country were not likely to throw light on the ætiology of climatic fevers in India, and observed that for a long time it was thought that typhoid did not exist in that country.

DR. J. W. MOORE said the members of the Section were unanimously of opinion that they were indebted to Surgeon-Major Gore for his paper.

The REGISTRAR-GENERAL (Dr. Grimshaw) concurred, and said the paper was more for instruction than discussion, the members having absolutely no experience of the forms of fever described.

#### *Disease of the Bladder.*

DR. J. P. DOYLE read a paper on a case presenting some symptoms of disease of the bladder. A gentleman, sixty-eight years of age, came under his care in May last for irritability of the bladder and pain along the urethra, especially about an inch from the orifice. He consulted a London specialist, who from the symptoms expected to have found a calculus, but afterwards diagnosed enlargement with hardness of the right lobe of the prostate, which he said by pressure on the nerves produced the pain, numbness, and lameness in the right lower extremity from which the patient suffered. He also informed him that he would not be free from pain during his life. On the 18th of January inflammatory symptoms with great increase of pain set in. The slightest touch or movement produced increase of pain, with contraction of the muscles of the thigh, which in a few days became very tense and swollen, and later on some stercoraceous vomiting ensued along with great tympanitic distension of the abdomen. The patient got great relief from puncturing the abdomen with the needle of an ordinary hypodermic syringe in the position of the ascending colon, which allowed of the escape of a large quantity of very offensive gas. On *post mortem* examination no calculus

was found, and the bladder and prostate were normal. The verumontanum appeared enlarged. The cæcum, ascending colon, and vermiform appendix were found inflamed. The two former were distended, and contained dark-coloured matter like moist charcoal, and the latter was filled with a hard mass, which on fracture looked like charcoal.

The CHAIRMAN said it seemed a critical case for diagnosis, and asked was there perforation.

DR. MORE MADDEN considered that all the symptoms pointed to disease of the bladder, including displacement of the cæcum, which gave rise to an amount of trouble sometimes under-estimated.

The CHAIRMAN had not seen any case where the thigh was involved, but he had seen one where the pain was down the right thigh. He did not think the prostate gland had anything to say to it. Possibly no true diagnosis could have been made during life.

DR. DOYLE, in reply, said there was no perforation. The man had enlargement and hardness of the prostate. Contrary to what the authorities mention, the patient never lay on the diseased side, but on the opposite. He was stated to have a gouty and rheumatic tendency.

*Progressive Muscular Atrophy and Labio-glosso-laryngeal Paralysis.*

DR. J. MAGEE FINNY read a paper to show the identity of progressive muscular atrophy and progressive bulbar paralysis. He drew attention to the rarity of labio-glosso-laryngeal paralysis. Erb wrote his article in "Ziemssen's Cyclopædia of Medicine" from a personal knowledge of but nine cases, Hammond saw but six, and he himself had met with but three cases—one while a student, and the other two the subject of the paper. Each of these diseases occurs perfectly independently of the other. Of Erb's nine cases, six were of pure bulbar paralysis. Nevertheless progressive bulbar paralysis is one of the commonest terminal complications of progressive muscular atrophy; and, on the other hand, amyotrophic lesions are found with or subsequent to the occurrence of bulbar disease. He did not discuss the relative merits of the myopathic or neuropathic theories of the origin of the two diseases; but he referred to the light thrown on the essential identity—by the microscopic demonstrations of Charcot, and more recently of Fox—of the lesion engaging the gray nuclei on the floors of the fourth ventricle and the multipolar cells of anterior gray cornua of the cord at the same time, by the analogy of the these parts as revealed by anatomy and physiology, and by the striking clinical resemblance of the symptoms. The two cases the subject of this communication were men of the labouring class, both from the country, one aged fifty, the other thirty-nine, who came under his care in the spring of 1882, with illnesses of seven and nine months' duration respectively. In both disease began without any discoverable cause, predisposing or exciting, in the tongue by impairment of speech and difficulty of deglutition;

and after five or six months evidences of progressive muscular atrophy were perceived, although it was very probable that its occurrence was considerably earlier. The bulbar symptoms were extremely well marked in each, though one differed from the other by the amount of glossal atrophy and the involvement of the lips. Fibrillary movements were noticed in the tongue of both and in the lips of one. The constant dribbling of saliva, the difficulty of pressing the lips to blow smoke, or to spit, the difficulty of carrying the particles of food to the back of the mouth, were all well marked, while speech was reduced to "aye" and "no" in one patient, and to a few monosyllables in the other. In both the dental and labial letters were impossible, and in one suffocative attacks from the food entering the larynx were frequently imminent. The amyotrophic changes were well marked in the neck and upper extremities of one, and of both arms and legs in the other. Fibrillary movements were most distinctly seen in all the paralysed muscles. Sensation and tendon reflexes were unimpaired, and there was no paralysis of the bladder or rectum. In one, treatment by barium chloride and frequent galvanism and faradism seemed to arrest the progressive muscular atrophy, and even to restore to the deltoids the power they had lost, while the bulbar symptoms remained unaltered, though not increased. The other case was rapidly wasting, and the bulbar symptoms were worse. Both cases left hospital, and their future progress was unknown.

DR. C. J. NIXON observed that in bulbar paralysis there was always to be found a constant lesion in the motor roots of the nerves and the motor ganglia and the medulla. In all the *post mortem* examinations there had been found constant trophic change in the motor roots of the nerves, whereas in 19 recorded cases of progressive muscular atrophy no change whatever was found in the motor roots, and another peculiarity was that the first sign was the atrophic condition of the muscles, while there were some cases recorded where with distinct bulbar paralysis there was no atrophy of the muscles at all. The absence of atrophy of the muscles could be explained by assuming the disease confined to the motor cells in the anterior gray horns, while the trophic cells in the neighbourhood had escaped the disease. He asked how Dr. Finny explained the number of cases met with by reliable observers where there had been no disease found in the cord at all in cases of progressive bulbar atrophy. Another point was as to what distinction they were able to draw between cases of progressive muscular atrophy and the acute or subacute forms of poliomyelitis. In poliomyelitis they first had paralysis and subsequently atrophy, whereas in progressive muscular atrophy they first had atrophy, and then in proportion to atrophy of the muscles they had loss of motor power. There was a great amount of evidence to show that those diseases were to a large extent hereditary.

The CHAIRMAN pointed out that there were cases recorded of local

origin in which there was no disease found in the spinal marrow or the brain.

DR. FINNY, in reply, acknowledged that Dr. Nixon had touched more points than he had dealt with in his communication; but he thought it was hardly time yet to come to any positive conclusion in comparing the two diseases, the number of observations on progressive muscular atrophy being much larger than that on bulbar paralysis. The microscopic examinations in the latter were very few, whereas the other disease had been the subject of general observation for many years. It was not in his power to explain the observations of Charcot as to the absence of lesions in the anterior grooves of the cord in progressive muscular atrophy. If his theory was correct, one of the essentials must be an ascending neuritis, and this passing through the muscles should show itself in the anterior roots before it reached the gray matter in the cord. There might be no lesion of the anterior cornu at all. In infantile palsy rapid inflammation or other lesion took place in the multipolar cells; whereas in muscular atrophy the same process was going on much slower and partially progressive muscular atrophy existed; but there were many cases where before the atrophy was fully confirmed they had paralysis, and that in bulbar paralysis. In Charcot's case the lung was perfectly normal, but after death the examination showed it was in a very advanced stage of fatty degeneration. The amount of atrophy was somewhat due to the nutritive nerve-cells, which must preside over those parts. As to the ætiology of the disease, so far as his knowledge went, there was little known about it. He did not agree with Dr. Nixon that hereditariness was shown to be a factor in those cases. It was not so in his cases, which he had brought forward not to prove any special theory as to the origin of the disease, but to illustrate the close affinity existing between the two diseases.

*Atrophy of Optic Nerves, and Paralysis of First and Fifth from probable Tumour in the Brain.*

MR. STORY read a paper on atrophy of the optic nerves and paralysis of the first and fifth from probable tumour in the brain, the discussion on which was, owing to the lateness of the hour, postponed to next meeting.

The Section adjourned.

## PATHOLOGICAL SECTION.

President—A. H. CORLEY, M.D.

Sectional Secretary—E. H. BENNETT, M.D.

*Friday, May 2, 1884.*

The PRESIDENT in the Chair.

*The Nature of Jequrity Inflammation.*

MR. ARTHUR BENSON read a paper recounting a series of experiments on which he had been engaged since January last, concerning the ætiology of jequirity inflammation. He concluded that the bacillus found in the infusion had nothing whatever to do with the production of the inflammation, but had not yet satisfied himself as to its real nature. He could produce the characteristic membranous ophthalmia with jequirity powder, with freshly-made cold infusion, with infusion in which the bacilli had developed, with the same after they had died, and with an infusion over eight weeks old, but still swarming with micro-organisms of various kinds, while he had failed to produce any results by inoculation of the discharge or membrane caused by jequirity. Nor could he in the membrane or discharge find any bacilli whatever, though he had made numerous observations at all stages of the affection. In these respects his observations were confirmed by those of Neisser, Klein, Salomonsen, and Holmfeld. He had latterly tried the effects of powdered jequirity dusted on callous ulcers of the leg and found that a similar membranous inflammation was produced on them as in the conjunctiva, the membrane being easily detached from the ulcerated surface. The stimulation caused by the application seemed decidedly beneficial in a certain class of ulcers, and even in vascular ulcers the application of the powder produced hardly any pain whatever. In this respect there was a striking contrast between its effect on the conjunctiva and on ulcers of the skin. He hoped that surgeons would give the drug a trial in such cases, as he believed it would prove of real value in the treatment of chronic ulcers. He was at present engaged on a series of experiments with a view to discovering the real nature of jequirity inflammation, and hoped by working on ulcers of the leg and arm to arrive at more satisfactory results than were attainable when working on the conjunctiva, where it was quite impossible to avoid the irritating effects of external influences. His results (if any were arrived at) he hoped to bring forward at a subsequent meeting.

The PRESIDENT said the communication was most interesting. The merit of a man who demolished a false theory was only next to that of a man who established a true one.

MR. STORY remarked that when jequirity was first introduced into ophthalmic surgery, as a cure for granular ophthalmia, it was conjectured by oculists that the cause of the inflammation was micro-organisms. He too for a long time believed that bacilli were the cause of the ophthalmia, but since Dr. Benson's experiments he had modified his opinion, and did not regard that theory as proved. The fact that when portion of the dense membrane formed by the action of the drug was put into a healthy conjunctiva, and produced no effect, was remarkable, and almost demonstrated that the bacilli could not be the cause of the inflammation. No bacilli were found in the membrane in one case, and when the same membrane was put into the person's other eye it produced no effect and no bacilli were found in the discharges.

DR. JOSEPH KENNY believed that Dr. Benson's observations were at all events coeval with those of Klein. In the North Dublin Union Workhouse the drug was tried on ulcers with strongly marked improvement as the result. An ulcer near the tendo Achillis of a man's foot, of many years' standing, was exceedingly intractable, and had been a couple of years under his own observation. The man was exceedingly anæmic, and for eighteen months there had been no improvement, yet within twenty-four hours after the application of jequirity red granules appeared and the ulcer began to fill; but from that time, consequent on illness he had himself, he lost sight of the case, which was a typical one, for the trial of the experiment. In another case, not so typical, a fair amount of granulation took place and the tendency to bleeding was arrested on the application of the jequirity, without delaying the process of granulation. Indeed the tendency to granulation increased, while the tendency to bleed decreased, and the little pain caused by the application was very remarkable, thereby contrasting favourably with other stimulating applications, especially the blister. It was difficult to limit the area of influence of the blister, but that of jequirity extended only a small distance outside the area powdered with it. On the whole he was encouraged to proceed with the investigation of the effects of the drug in cases of ulcer.

*Scapulo-Humeral Dislocation in the Horse.*

MR. P. S. ABRAHAM, in his communication, stated:—Dislocation of the shoulder-joint is very uncommon in the horse. Most writers on veterinary surgery do not allude to such a lesion; others deny its possibility; and only one or two mention cases in which the accident had happened. The Principal of the Royal College of Veterinary Surgeons, London, kindly informed the author that in thirty years he had met with three cases. No description had been found of an actual specimen, and probably the example before the Academy was unique. The humerus is dislocated on the dorsum of the scapula,



the head being three and a half inches away from the glenoid surface. The outer edge of the latter is broken off and forced up. The capsular ligament was ruptured, but none of the muscles or their tendons—that of the “flexor brachii” being only much stretched and changed in direction. Ankylosis had commenced between the humerus and scapula in their new position. The horse took a fence intemperately and fell across a narrow bank at the other side of the ditch, with his off foreleg under him. When got to stand up the deformity was observed, but he was able to put the foot to the ground, and was led a distance of three and a half miles to the nearest station and brought up to Dublin. The veterinary surgeons were confident that some muscle or muscles were ruptured, and that the joint was not dislocated. They ridiculed any attempt at reduction. A severe blister was applied, and subsequently a leather shield was fastened tightly on. The strap caused a sore on the withers, and ten weeks after the injury lock-jaw set in.

DR. BENNETT asked whether veterinary surgeons regarded this dislocation as an impossibility in the cow. The anatomy was similar to that in the horse, but the conditions for the occurrence were somewhat less favourable. Many years ago, in the south of Ireland, he saw a dislocation of the shoulder of a cow. A local bone-setter, who appeared to be perfectly familiar with occurrences of the kind, treated it by hobbling the cow's two forelegs and driving her with the utmost violence so as to make her weight reduce the dislocation.

MR. ABRAHAM said the joint in the cow, though similar, was not quite the same as that of the horse. The top of the humerus was not so large in the cow, and the whole shoulder was not so movable as in the horse. One method of reduction, in the case of the cow, was by putting the hoof of the leg over the horns and driving the animal until the dislocation got in of its own accord.

#### *Rare Tumour of the Orbit.*

MR. STORY exhibited a tumour about the size of a small pea which he had removed from the orbit of a girl aged twenty. It had existed from earliest childhood, and had lately increased in size. The tumour lay beneath the lower lid towards the inner canthus, was freely movable in all directions, strong and hard to the touch, and was covered by slightly discoloured skin. When the patient stooped, laughed, cried, or took violent exercise, this patch of bluish discoloured skin swelled. When the superjacent soft parts were divided the little tumour came out without further interference. On section it was found solid, and formed of a series of irregularly concentric layers, which microscopical examination showed to consist of fibrous tissue and calcified matter of an unknown origin, together with cellular conglomerations of an indefinite character. Nothing resembling either bone or cartilage existed in the tumour, its

rdness being due to new calcification. He considered the tumour as a phlebolith, the history of the case and the pathological appearances with that view as to its nature. The only tumour at all recent, hitherto described, was one removed by Fano, and described by him as an arterio-fibro-cartilaginous growth. He condemned Fano's opinion of the tumour, which, he said, must have been also a phlebolith. BRAHAM said he had examined the section prepared by Mr. [redacted] and believed that he had come to a correct conclusion as to the being of the nature of a phlebolith. There was nothing bearing of cartilage cells in the growth. It seemed to consist of a kind of fibrous tissue, which had become calcified. The inside consisted of a singular amorphous mass of unknown material. ENSON thought the tumour in the first instance was a nævus. The specimen was sent to the Committee of Reference.

#### *Multiple Diverticula of Large Intestines.*

ENTAIENNE, having submitted the specimen, said it was wonderful what evil effects had resulted. According to the opinion of Dr. Habersham, formations in such cases were the result of constipation and efforts of the intestine to expel the fæces. In the specimen the intestinal fibres were very much hypertrophied.

#### *Fracture of the Head and Articular Surface of the Tibia.*

THOMSON showed a case of fracture of the head and articular surface of the tibia. The patient had fallen from a height, reaching the ground feet, and the bone was fractured by the weight of the body transmitted by the condyles of the femur. He observed that this fracture was not described in the ordinary books of reference. Heydenreich, in 1877, referred to four cases in the Continental museums. Dr. Gordon, of Belfast, had mentioned that there were three cases in the museum there, and Professor Bennett, of Dublin, had shown an excellent specimen from the dissecting-room, the injury in each case having been recovered from.

BENNETT said the plate given by Heydenreich was identical with the one before the section. The fracture was most commonly produced by direct force, generated by the fall of the individual from a height; but sometimes the fracture was produced by the fall of a weight on a flexed knee. He had had under observation a case of that kind. A woman, carrying a bag of sand, fell off a wall in a half-sitting posture. One of her knees was buried in the gravel, and the bag of sand came on one of her knees, which was flexed, producing the fracture.

STOKER said much less force would produce fracture of the tibia when the knee was flexed than when it was in a straight position, and there was a much smaller amount of curvature of the condyles.

## TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

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SESSION 1883-84.

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President—PROFESSOR DILL, M.D.

Hon. Secretary—WILLIAM G. MACKENZIE, L.R.C.P. Edin.

Tuesday, April 1, 1884.

PROFESSOR DILL in the Chair.

*Discussion on the New Cephalotribe.\**

THE PRESIDENT said—Since the invention of the forceps by the Chamberlaynes, now upwards of two hundred years ago, I am of the opinion we have not had furnished to us an instrument equal to Dr. Smith's cephalotribe, suited as it is so well to certain very difficult cases of labour.

I can now exhibit Lusk's modified cephalotribe, so that you can at once have an opportunity of seeing and comparing for yourselves the two instruments, and having done so, I think you will agree with me (who have had considerable experience in the use of each) in deciding in favour of the greater advantages afforded in the use of Dr. Smith's cephalotribe.

I remember well the painful peculiarities of the case which first suggested to Dr. Smith and myself the necessity for such a design as is to be seen here in his instrument. The case was one in which we found a narrow pelvis, the head above the brim, forward, and somewhat resting upon the pubic bones. After having perforated we made more than one attempt to get Kidd's cephalotribe over the head so as to seize it properly, but without success, for as it was too much forward and outside the line or axis of the instrument the head could not be properly reached. We had, therefore, no alternative but to fall back upon the crotchet and such other means as we had at our disposal, and after nearly three hours of much anxious work we succeeded in bringing away a fœtus of more than average size. The patient made a good and quick recovery, and she became pregnant soon again. In the meantime Dr. Smith had given such instructions to a manufacturer regarding the design and make of his instrument as were suggested by the peculiar characteristics of the case just brought under notice, and the instrument was in our hands before her next confinement.

We met again at the bedside of this difficult, but interesting case of labour. We were, however, somewhat fortified by being in possession of what we believed would meet the emergency, though a little anxious, as the instrument was about to be put upon its trial for the first time;

\* See Dublin Journal of Medical Science, May, 1884. Page 472.

but I am free to say that it more than realised our hopeful expectations, for the perforation, the application of the instrument, and bringing the operation to a successful termination did not occupy much over as many minutes as our first occupied in hours.

Dr. Smith has just narrated the history of the case, and the operation which he and I performed for the third time upon the same patient with his new and improved cephalotribe, and which served our purpose even better and easier than did his first instrument; and it is now so admirably finished and complete that I think the time is very remote when any material alteration in it may be considered necessary. Following up the same subject, I may now be allowed to exhibit a large sized foetus, hydrocephalic and with spina bifida, which I (in company with Dr. M'Kee, whom I am glad to see present) brought through the narrow pelvis of a little and a deformed woman, and this even in a very short time and with comparative ease, by means of Dr. Smith's cephalotribe.

I have now used this instrument during the last five years both in town and country in very many cases, and with the greatest satisfaction, and the gentlemen with whom I was in consultation invariably expressed themselves not only pleased but surprised at the wonderful facility with which the work was accomplished, and the short time and ease with which an otherwise laborious case was brought to a successful issue by means of the instrument now under consideration.

Will you allow me, before bringing these very hasty and imperfect remarks to a close, to direct your attention to a case which I see reported by Dr. Atthill, when in the Rotunda Hospital, and in which case I can recognise similar difficulties as were discovered in the case so often under the care of Dr. Smith and myself, and Dr. Atthill experienced equal inability in the application of the cephalotribe as we had done, and like us he also had to call in the aid of the crotchet. Since that time, I believe, Dr. Atthill has put himself in possession of Dr. Smith's cephalotribe, and I believe it is now a favoured instrument with him.

DR. ESLEB and DR. M'FARLAND congratulated Dr. Smith on the production of such a useful and complete instrument.

DR. MOORE was much interested in Dr. Smith's paper. He always felt the great responsibility which rested upon the medical man who decided to perform the operation of cephalotripsy. He did not approve of calling Dr. Smith's cephalotribe a depopulating instrument.

DR. MACKENZIE narrated a case in which, after turning, he was obliged to perforate and deliver with Simpson's cephalotribe, but he thought the use of the cephalotribe exhibited by Dr. Smith would have saved time and trouble. The mother in his case made a rapid recovery.

DR. SMITH thanked the Society for the kind reception accorded to his paper, and for the interest taken by the members in his new and improved cephalotribe.

# SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P., F.R. Met. Soc.

## VITAL STATISTICS

*Of the Eight Largest Towns in Ireland, for Four Weeks ending Saturday, April 19, 1884.*

Towns	Population in 1884	Births Registered	DEATHS REGISTERED			DEATHS FROM SEVEN ZYMOTIC DISEASES							DEATH-RATE per 1,000		
			Total Number	Under 1 year	At 60 years and upwards	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	Deaths from Phthisis	From all causes	From seven Zymotics
Dublin,	351,014	778	730	112	187	-	-	17	2	5	32	9	101	27.1	2.5
Belfast,	216,622	541	429	69	74	-	-	9	4	2	1	10	85	25.7	1.6
Cork,	80,124	160	178	23	34	-	4	1	1	5	7	5	27	28.9	3.7
Limerick,	38,562	86	72	12	18	-	-	-	-	1	2	1	7	24.3	1.3
Derry,	29,162	53	61	11	15	-	-	3	-	1	-	1	10	27.2	2.2
Waterford,	22,457	45	73	5	17	-	-	8	-	3	5	5	3	42.3	12.2
Galway,	15,471	25	27	1	9	-	-	-	-	-	-	-	4	22.7	—
Newry,	14,808	19	28	6	4	-	-	-	-	-	-	1	6	24.6	0.9

### Remarks.

In the eight selected towns included in the foregoing Table the highest death-rates are 42.3 per 1,000 of the population annually in Waterford, 28.9 in Cork, 27.2 in Derry, and 27.1 in Dublin; the lowest rates are 22.7 in Galway, 24.3 in Limerick, 24.6 in Newry, and 25.7 in Belfast. The rate of mortality from seven chief zymotics ranged from 12.2 per 1,000 per annum in Waterford, 3.7 in Cork, 2.5 in Dublin, 2.2 in Derry, 1.6 in Belfast, and 1.3 in Limerick, to 0.9 in Newry. In Galway no death was registered from any one of the seven zymotics.

The recorded deaths represented a rate per 1,000 of the population annually of 21.6 in twenty-eight large English towns (including London, in which the rate was 20.7), 26.4 in the sixteen chief towns of Ireland, 26.8 in Glasgow, and 22.2 in Edinburgh. If the deaths (numbering 30) of persons admitted into public institutions from localities outside the Dublin Registration District are deducted, the death-rate of that district becomes 25.9, while that of the portion of the district included within the municipal boundary appears as 28.9.

Acute febrile zymotics were returned as the cause of death in 82 instances in the Dublin district, compared with 71 and 72 in the two

preceding periods of four weeks each, and a ten-years' average of 114·9 in the corresponding period. This group of maladies therefore showed an increased mortality, although they were by no means as fatal as usual. The 82 deaths included 17 from scarlet fever, 32 from "fever," 5 from whooping-cough, 9 from diarrhoeal diseases, and 2 from diphtheria. The epidemic of scarlet fever is apparently at a standstill, as the deaths have fallen from 19 in the previous four weeks only to 17. Of the 32 deaths referred to "fever," 10 were ascribed to typhus and 12 to enteric fever, while in as many as 10 instances the exact nature of the fever was either not specified or was ill-defined. The deaths from fever were exactly double those registered (16) in the previous period. Ten children under five years succumbed to scarlet fever, including one infant of less than twelve months. All the 5 victims of whooping-cough were under five years of age, and 2 of them were not a year old.

The epidemic of measles continues to smoulder in Cork, where 4 deaths were caused by it, compared with 3, 10, and 20 in the three preceding periods.

Scarlet fever was again less fatal in Belfast, the deaths being 9, compared with 12 and 14 in the two previous periods. The deaths from this disease also fell from 7 to 3 in Derry, and from 11 to 8 in Waterford. Whooping-cough still shows a widespread prevalence and fatality. Diarrhoeal diseases were credited with 32 deaths in the eight towns, against 24 and 28 in the two previous periods of four weeks each.

In the Dublin Registration District 778 births and 730 deaths were registered, compared with 818 births and 717 deaths in the previous four weeks. The births were those of 382 boys and 396 girls. The deaths of infants under one year fell from 126 to 112; those of persons aged sixty years and upwards rose from 177 to 187.

The deaths referred to pulmonary consumption in the eight towns were 248, compared with 212, 220, 189, 170, and 173 in the five preceding periods of four weeks each. In Dublin diseases of the respiratory organs are stated to have caused 155 deaths, against 126, 157, 161, 185, and 165 in the five preceding periods, and an average of 203·0 in the corresponding four weeks of the previous ten years. The 155 deaths included 103 from bronchitis (average = 142·0) and 38 from pneumonia (average = 38·2). Not fewer than 14 deaths from pneumonia were registered in the last week. These figures bear testimony to the severity of the spring as contrasted with the extreme mildness of the past winter. Of the 103 persons who succumbed to bronchitis, 14 were infants under twelve months, whereas 31 had passed their sixtieth year.

On Saturday, April 19, 1884, there were under treatment in the principal Dublin hospitals no cases of smallpox or of measles, 41 cases of scarlet fever, 36 of typhus, 23 of enteric fever, and 17 of pneumonia.

The mean temperature of the four weeks was 45·8° in Dublin, 44·8°

in Belfast, 46°9' at Roche's Point, Co. Cork, 45°2' at Greenwich, and 44°5' at Edinburgh. The beginning and close of the period were cold. The middle of the period was comparatively mild.

#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.  
Long. 6° 15' W., for the Month of April, 1884.*

Mean Height of Barometer,	-	-	29·849 inches.
Maximal Height of Barometer (on 14th, at 9 a.m.),			30·273 „
Minimal Height of Barometer (on 5th, at 8 a.m.),	-		29·010 „
Mean Dry-bulb Temperature,	-	-	46·5°.
Mean Wet-bulb Temperature,	-	-	43·2°.
Mean Dew-point Temperature,	-	-	39·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-		·244 inch.
Mean Humidity,	-	-	77·5 per cent.
Highest Temperature in Shade (on 7th),	-	-	59·8°.
Lowest Temperature in Shade (on 1st),	-	-	33·9°.
Lowest Temperature on Grass (Radiation) (on 22nd),			28·8°.
Mean Amount of Cloud,	-	-	54·0 per cent.
Rainfall (on 11 days),	-	-	1·532 inches.
Greatest Daily Rainfall (on 4th),	-	-	·863 inch.
General Directions of Wind,	-	-	N.E., E.S.E.

#### *Remarks.*

A cold, dry month—the wind, blowing almost constantly from easterly points of the compass, was of a particularly dry and searching character. In Western Europe this is peculiar to the polar or “Continental” winds of late winter and spring, which have traversed a vast land surface, covered with large quantities of melting snow and ice, and which have an exceptional capacity for absorbing aqueous vapour, owing to a quickly increasing temperature. Although cold, the past month was warmer than April, 1879 (M. T. = 43·7°), and 1881 (M. T. = 44·7°). The mean temperature deduced from the readings of the maximum and minimum thermometers was 45·8°, or 1·7° below that of the twenty years, 1865–84 inclusive, and 1·2° below the mean value of the readings of the of the Dry-bulb thermometer recorded daily at 9 a.m. and 9 p.m. The rainfall (1·532 inches) and rainy days (11) were decidedly below the average of the twenty years in question—viz., 2·029 inches, and 15·0 days respectively. It is to be noted in this connexion that a heavy fall of ·863 inch of rain on the 4th yielded more than half the measurement of the month, and also that on 5 out of the 11 “rainy days” the quantity of rain measured was a minimum—namely, ·010 inch. Sleet and snow fell on the morning of the 1st; hail in the afternoon of that day, and also on the 18th. Lightning was seen on the night of the 4th. Early

on the 9th there was a thick vapour fog, and on the 8th, 11th, and 24th likewise the atmosphere was at times foggy. "East wind haze" was observed in a marked degree on many days, and about the middle of the month the coloration round the sun so often present during the past winter was distinctly seen.

At the beginning the general distribution of pressure over the N.W. and W. of Europe was that which had been so persistent in the preceding months—namely, a high barometer in Scandinavia and the Baltic, and a low barometer over Ireland and the adjoining Atlantic. On the night of the 1st, with a southerly wind, sleet and snow fell heavily in this country, whereas in England temperature was high for the time of year. Lightning was seen at night in Ireland and the West of Scotland. On the 2nd temperature rose to 68° in London and at Cambridge. On the 4th a deep depression brought heavy rain to Ireland.

In the second week (6th–12th) exceedingly fine weather prevailed in the E. of this country, but in the W., and also in England, it was less settled. A thick vapour fog prevailed on the morning of the 9th, after which came a succession of cold nights, hazy mornings, and bright bracing days—such weather, in fact, as is experienced in the British Islands only during spring anticyclones. There was no measurable rainfall, and the wind was nearly always south-easterly or easterly.

The third week (13th–19th) was one of continuous polar winds, dry searching air, and scanty rainfall. In Ireland the weather was much drier than in Great Britain, where showers of cold rain, or sleet, and hail fell on several days. At the inland Irish stations very low night temperatures were recorded, but on the E. coast cloud was more prevalent, and on the 18th showers of cold rain and hail fell. Atmospheric pressure was at this time highest to the N. and N.W. of the United Kingdom, and relatively low over the Peninsula and France.

In the fourth week (20–26th) the weather in England was cold and unseasonable, severe frosts having occurred at night time. Thus, the minima for Cambridge during this period were 28°, 31°, 27°, 26°, 25°, 28°, and 35°. Even in Dublin sharp grass frosts were noticed on the 22nd, 24th, and 25th, but in Ireland the air was generally milder than in England, and on the west coast slight falls of rain occurred daily from the 24th. At 9 20 a.m. on Tuesday, the 22nd, an earthquake of considerable intensity was felt throughout East Anglia, the centre of disturbance being at Colchester. A very brilliant display of aurora was seen in the North of Scotland and in Denmark on the night of the 24th.

During the last few days a depression passed eastwards across the S. of England to the neighbourhood of London, where it gradually filled up and dispersed. It caused grateful rains in England, but brought a temporary renewal of N.E. winds to Ireland. At the close, however, these gave way to a westerly current.



## PERISCOPE.

Edited by G. F. DUFFET, M.D., F.K.Q.C.P.

### GROCERS' COMPANY'S RESEARCH SCHOLARSHIPS.

At a Court of Assistants of the Worshipful Company of Grocers, held on Wednesday, May 21st, 1884, the following candidates were elected to the Company's Scholarships for research into the causes of important diseases, viz.:—1. W. North (renewal)—“Ætiology of Ague.” 2. Leonard C. Wooldridge, D.Sc., M.B.—“Hæmorrhagic Disease, Pernicious Anæmia, and Blood-clotting.” 3. Alfred Lingard, M.R.C.S.—“Intimate Ætiology of Enteric Fever.”

### TREATMENT OF ALBUMINURIA BY NITRO-GLYCERINE AND THE CHLORIDE OF GOLD AND SODIUM.

THE *Boston Medical and Surgical Journal*, January 10, 1884, contains a paper on this subject by Dr. Roberts Bartholow. He considers these remedies of great value. In acute cases nitro-glycerine should be given immediately on the subsidence of the acute symptoms. It is indicated at all periods in chronic cases, but is more especially useful if given before hypertrophy of the muscular layer of the arterioles has taken place. When it acts favourably the amount of albumen in the urine steadily diminishes. The initial dose is one minim of the one per cent. solution, and should be increased until the very characteristic physiological effects are produced; the interval between the doses should not exceed three or four hours. The double chloride of gold and sodium is indicated in the subacute and chronic cases, especially the latter. The earlier it is given the better, if structural changes are to be prevented or arrested. The usual dose is gr.  $\frac{1}{10}$  twice a day, but this may be much increased if necessary. At the outset gr.  $\frac{1}{10}$  may be given; in a week the dose should be lowered to gr.  $\frac{1}{15}$ ; and, after a month, the regular dose of gr.  $\frac{1}{20}$  should be steadily administered with occasional intermissions. It is usually well borne, but if it cause indigestion, gastralgia, and colicky pains, nausea, or diarrhœa, the dose must be diminished. The above remedies, if employed together in the same case, should be given uncombined, and at different hours; but the nitro-glycerine may be given with amyl or sodic nitrite; and corrosive sublimate may be combined with chloride of gold and sodium. These remedies may be discontinued if they produce no obviously good effects after two weeks' administration.—*Med. Times.*

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